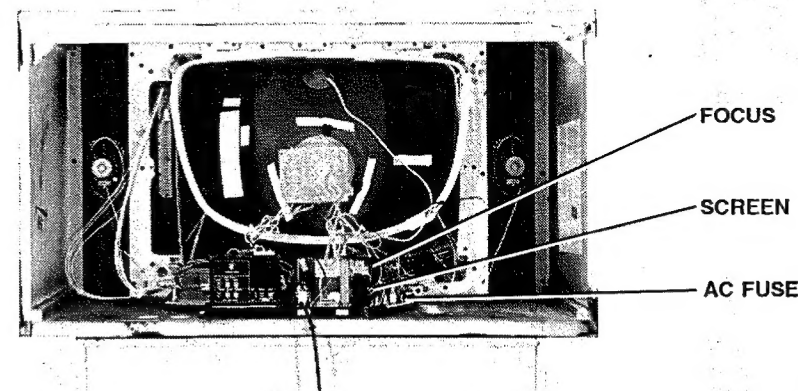


CABINET - REAR VIEW



TEST JIG HOOKUP				
Function	Chek-A-Color Adapter No.	PC Board Plug	Pin	Color
CRT	B239	# 3Y3	1	Red
Yoke	D482		2	Blue
Yoke Setting	YP1A		3	Yellow
Comments	Focus Tap		4	Black

The listing of any available replacement part herein in no case constitutes a recommendation, warranty, or guarantee by Howard W. Sams & Company as to the quality and suitability of such replacement part. The numbers of the listed parts have been compiled from information furnished to Howard W. Sams & Company by the manufacturers of the specific type of replacement part listed.

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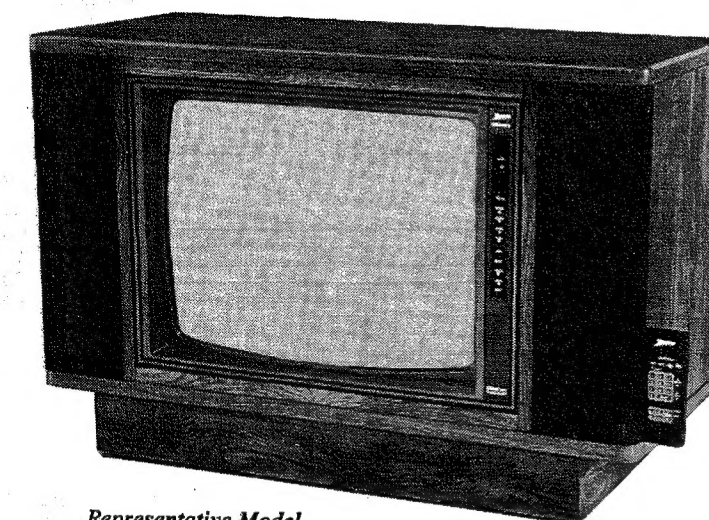
SET 2877

MODEL SF2593Y2

ZENITH

PHOTOFACT® Technical Service Data

ZENITH Model SF2593Y2



Representative Model

Complete coverage
for servicing a television receiver...

- Schematics
- Component locations
- Parts lists
- Troubleshooting guide

Coverage includes these additional models:

SF2593X2	SF2799Y2
SF5725H2	SF5725H52
SF5729S2	SF5729W2
SF5745H2	SF5745H52
SF5749W2	SF5765H2
SF5765H52	SF5769Y2

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For Supplier Address,
See PHOTOFACT Annual Index



HOWARD W. SAMS & COMPANY

SEPTEMBER 1991 SET 2877

2877

SAFETY PRECAUTIONS

SERVICE WARNING

ONLY qualified service technicians who are familiar with safety checks and guidelines should perform service work. For continued SAFETY:

- 1. Before replacing parts, disconnect power source to protect electrostatically sensitive parts.
- 2. Do not attempt to modify any circuit unless so recommended by the manufacturer.
- 3. When servicing chassis, use an isolation transformer between the line cord and power receptacle.

SERVICING HIGH VOLTAGE AND PICTURE TUBE

Use EXTREME CAUTION when servicing the High Voltage circuits.

- 1. To discharge static High Voltage, connect a 10 kilohm resistor in series with a test lead between chassis and picture tube anode lead.
- 2. DO NOT lift picture tube by the neck.
- 3. ALWAYS wear shatterproof goggles when handling picture tube to protect eyes in case of implosion.

X-RAY RADIATION AND HIGH VOLTAGE LIMITS

Be aware of the instructions and procedures covering x-ray radiation. In solid-state receivers and monitors, the picture tube is the only potential source of x-rays.

- 1. Keep an accurate High Voltage meter available at all times. Check meter calibration periodically.
- 2. Whenever servicing a chassis, check High Voltage at various brightness levels to be sure it is regulating properly.
- 3. Keep High Voltage at rated value, NO HIGHER. Excessive High Voltage may cause x-ray radiation or failure of associated components. DO NOT depend on protection circuits to keep voltage at rated value.
- 4. When troubleshooting a set with excessive High Voltage, avoid close contact with picture tube. DO NOT operate set longer than necessary. To locate the cause of excessive High Voltage, use a variable AC transformer to regulate voltage.
- 5. In present chassis, many electrical and mechanical components have safety-related characteristics which are not detectable by visual inspection. Such components are identified by a # on both the schematic and the parts list. For SAFETY, use only equivalent replacement parts when replacing these components.

SAFETY CHECKS – FIRE AND SHOCK HAZARD

Cold Leakage Checks for Sets with Isolated Ground

- 1. Unplug the AC cord, connect a jumper across the plug prongs, and turn the power switch ON.
- 2. Use an ohmmeter to measure the resistance between the jumpered AC plug and any exposed metal cabinet parts such as antenna screw heads, control shafts, or handle brackets. Exposed metal parts with a return path should measure between 200 kilohms and 5 megohms. Parts without a return path must register infinity.

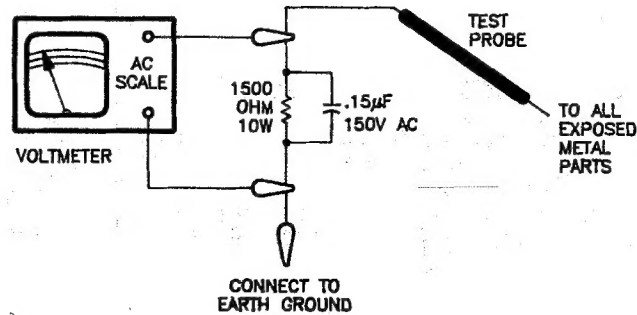
Hot Leakage Current Check

- 1. Plug the AC cord directly into AC outlet. DO NOT use an isolation transformer.
- 2. Use a 1500-ohm, 10-watt resistor in parallel with a .15-microfarad 150 Volts AC capacitor to connect between any exposed metal parts on the set and a good earth ground. (See figure below.)
- 3. Use an AC voltmeter with at least 1000 ohms-per-volt sensitivity to measure the voltage across the resistor. Check all exposed metal parts and measure voltage at each point.
- 4. Voltage readings should not exceed .75 volts RMS (5 milliamps AC). Any value exceeding this limit constitutes a potential shock hazard and must be corrected.
- 5. If AC plug is not polarized, reverse the AC plug and repeat exposed metal part voltage measurement at each point.

GENERAL GUIDELINES

Perform a final SAFETY CHECK before returning set to customer.

- 1. Check repaired area for poorly soldered or de-soldered connections, and check entire circuit board for solder splashes.
- 2. Check inner board wiring for pinched wires or wires contacting any high-wattage resistors.
- 3. Check that all control knobs, shields, covers, grounds and mounting hardware have been replaced. Be sure to replace all insulators and restore proper lead dress.



TEST EQUIPMENT

Test equipment listed by participating manufacturers illustrates typical or equivalent equipment used by Sams engineers to obtain measurements. This equipment is compatible with most types used by field service technicians.

Equipment	B&K Precision No.	SENCORE No.
Oscilloscope	1541A, 2120, 2125, 2160, 2190, 2522	SC61
Generators		
RGB	1249A, 1260	RG67
Multiburst Signal	1251, 1260	VA62A
Color Bar	1211A, 1249A, 1251, 1260	VA62A, CG25, NT64
TV Stereo	2009	ST65, ST66
Analog VOM	114, 117, 177, 214	-
Digital VOM	377, 388HD, 2700 Series, 2831A, 2860, 2900 Series	DVM37, DVM56A, SC61
Frequency Meter	1803A, 1804A, 1805, 1822, 1851, 1855	FC71, SC61
Hi-Voltage Probe	HV-44	HP200
VOM/DMM	-	TP212
Accessory Probes	PR-28(HV)	-
Isolation Transformer	TR110, 1604, 1653, 1655	PR57
Capacitance Analyzer	810A, 815, 820, 830	LC76, LC101, LC102
CRT Analyzer	480, 490	CR70
Temperature Probe	TP-28, TP-30	-
AC Leakage Tester	1655	PR57
Logic Probe	DP21, DP51	-
Logic Pulser	DP31, DP101	-
Inductance Analyzer	875A	LC76, LC101, LC102
Flyback Yoke Tester	875A	VA62A, LC76, LC101, LC102
TV Stereo Power Monitor	-	SR68
Field Strength Meter	-	FS73, FS74
Transistor Tester	510, 520B, 530	TF46
Video Analyzer	-	VA62A
Modulator/Converter	1201	-

TROUBLESHOOTING

POWER SUPPLY

Check AC Fuse (FX3401). If fuse is open, check Capacitors CX3401 thru CX3405, Diodes CRX3401 thru CRX3404, Electrolytic CX3406, and Thermistor RX3426. Apply 120V AC, turn set On and check for 157V* at the cathode of diode CRX3404. If this voltage is missing, check Power Relay (KX3401) and Line Filter (LX3401). If 157V* is present at the cathode of CRX3404, check for 130V* at the Cathode of diode CR3410. If this voltage is missing, check ICX3401, Horizontal Output Transistor (QX3208) and associated components. If 130V is present, refer to the "Horizontal" section of this Troubleshooting guide.

*With respect to isolated ground.

IF/AGC

Inject a video IF signal at IF input and check for video on CRT. If video is present, check Tuner and Tuner Control circuits. If there is no video on CRT, check for a video waveform at pin 1 of Plug (1M). If the waveform is good refer to the "Video" section of this Troubleshooting guide. If there is no video at pin 1 of Plug (1M), apply AGC bias to pin 6 of IF Amplifier IC (IC1201). If video is now present at pin 1 of Plug (1M), check voltages and components associated with pins 1 thru 14 and 28 of IC1201. If there is still no video at pin 1 of Plug (1M), check voltages, waveforms and components associated with the remaining pins of IC1201 and Video Emitter Follower Transistor (Q1206). A defective AGC circuit can cause an overloaded picture, excessive snow or loss of audio and video. See AGC Voltage Chart of AGC voltages with signal.

IC1201	
Pin 1	6.5 V
Pin 4	2.9 V
Pin 6	4.1 V
Pin 30	2.8 V

CHROMA

Check for a chroma waveform at pin 7 of Video/Deflection Processor IC (IC2301). If the waveform is missing, check the components associated with pin 7 of IC2301 and Video Switching IC (IC2201). If a chroma waveform is present at pin 7 of IC2301, check for the proper chroma waveforms at pins 35, 36 and 37 of IC2301. If the chroma waveforms are missing, check voltages, waveforms and components associated with pins 1 thru 15, and 21 thru 31 of IC2301. Check the 3.58MHz oscillator at pins 9 and 12 of IC2301. If there is no color sync, check the APC pin 11 of IC2301 and associated components. If there is inadequate tint range, check voltages and components associated with the Tint Control, and pin 32 of IC2301. If the proper chroma waveforms are present at pins 35, 36 and 37 of IC2301, check pins 5, 8, 11, 15, 17, and 19 of Video Output IC (IC2501). If proper waveforms are present refer to "Raster" section of this Troubleshooting guide.

RASTER

Check the CRT and CRT voltages. If there is no Red, check voltages and components associated with Pin 37 of Video/Deflection Processor IC (IC2301), pins 5, 15 of Video Output IC (IC2501), Red Amplifier, Drive and Output Transistors (Q5103, Q5106, and Q5109). If there is no Green, check voltages and components associated with pin 36 of IC2301, pins 8, 17 of IC2501, Amplifier, Drive and Output Transistors (Q5101, Q5104, and Q5107). If there is no Blue, check voltages and components associated with pin 35 of IC2301, pins 11, 19 of IC2501, Amplifier, Drive and Output Transistors (Q5102, Q5105, and Q5108). If raster has a keystone shape, check Deflection Yoke (DY2300). If raster has height or width problems, refer to "Vertical", "Horizontal" and "Power Supply" sections of this Troubleshooting guide.

SYNC

Check for a video waveform at Pin 1 of Video/Deflection IC (IC2301). If this waveform is missing, check components associated with pins 5 and 14 of Video Switching IC (IC2201) and pins 1, 7, and 17 of IC2301. If a video waveform is present at Pin 1 of IC2301, check for proper Vertical waveforms at pin 31 of IC2301 and Horizontal waveforms at pins 19 and 28 of IC2301.

HORIZONTAL

Determine if TV is in shutdown, refer to "High Voltage Shutdown" section of this Troubleshooting guide. Inject a horizontal signal at base of Horizontal Output Transistor (QX3208), check for horizontal deflection on CRT. If horizontal deflection is now present, check voltages, waveforms and components associated with pins 17 thru 28 of Video/Deflection Processor IC (IC2301) and Horizontal Driver Transistors (Q3206, Q3209 and QX3202). If horizontal deflection is not present, check voltages, waveforms and components associated with Transistor QX3208 and Horizontal Output Transformer (TX3204). Check Diodes CR3434, CR3473, CR3487, and CR3488 for defects. The High Voltage Rectifier is part of Transformer (TX3204) and if defective may affect the operation of horizontal circuits. Horizontal linearity or width problems may be caused by Capacitors C3233, CX3221, CX3222, CX3229, or CX3231 being defective.

VERTICAL

Inject a vertical drive signal at pin 31 of Video/Deflection Processor IC (IC2301). If vertical sweep is now present, check voltages, waveforms and components associated with pins 17, 18, and 31 of IC2301. If there is still no vertical deflection, check voltages, waveforms and components associated with the Vertical Processor IC (IC2100) and Deflection Yoke (DY2300). Vertical linearity or height problems may be caused by Electrolytics C2108, CX2109, CX2110, CX3208 and C3248 being defective.

HIGH VOLTAGE SHUTDOWN TEST

Turn set on, adjust customer controls for normal operation and connect a variable 15.0V Power Supply, through an isolation diode, to cathode of Zenier Diode CRX3204. Start at 0V and slowly increase voltage. The set should lose raster and sound at less than 15V. If the set does not lose raster or sound the Shutdown circuit should be repaired. Turn set off, wait 30 seconds and test for normal operation.

HIGH VOLTAGE SHUTDOWN

The High Voltage is monitored by Diode CR3206, rectifying pulses from Horizontal Output Transformer (TX3204) and applying the rectified voltage to cathode of Zener Diode CRX3204. Should High Voltage increase, the voltage at cathode of CX3204 will also increase and trigger it into conduction. This action turns on Shutdown Latch Transistors (QX3204 and QX3207) which kills the horizontal drive signal shutting down the set. To troubleshoot, remove Diode CR3206 from circuit, use a variable AC power supply and troubleshoot. Start at 80 VAC and increase as necessary to locate and repair the defect.

NOTE: Care should be taken in defeating the High Voltage Shutdown circuit as this may cause excessive X-Radiation and damage to CRT, Transformer TX3204 and associated components. Monitor High Voltage and troubleshoot.

Voltage Taken in Shutdown

CRX3204	
Cathode	9.4V
QX3207	
Collector	.4V
Base	1.1V
Emitter	.4V

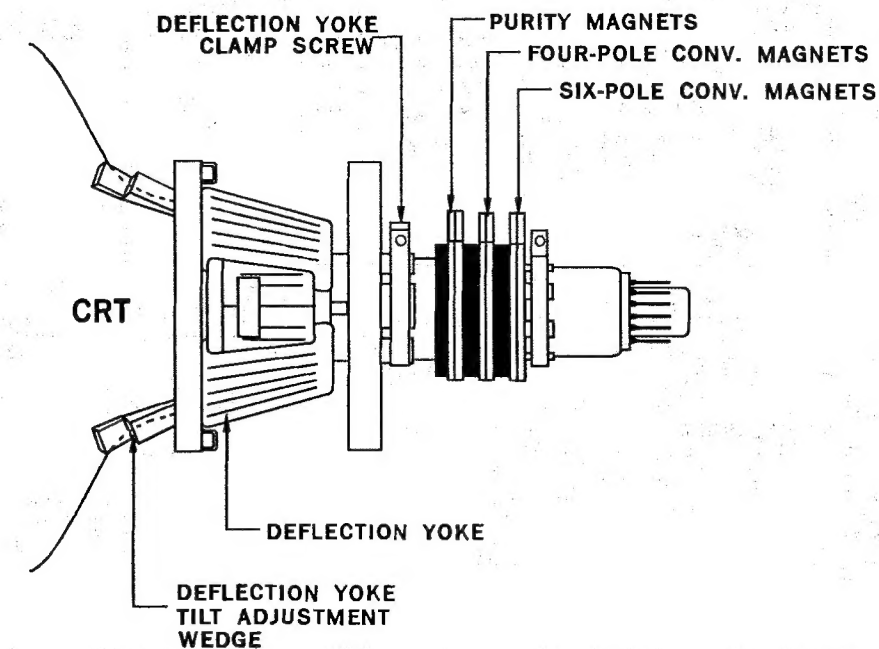
AUDIO

Select an active TV channel and check for an audio waveform at the Collector of Q1204. If there is no audio, check the voltages, waveforms and components associated with Pin 19 of IF Amplifier IC (IC1201). If audio is present at the Collector of Q1204, select a station transmitting a Stereo signal and check for audio waveforms at pin 23 of A/D Converter IC (IC1404). If audio is missing check the voltages, waveforms and components associated with Filter U1401, and pin 5 of IC1404. If audio is present at pins 5 and 23 of IC1404, check for audio waveforms at pins 22, 23 of Audio Processor IC (IC1405). If audio is missing check the voltages, waveforms and components associated with A/D Converter IC (IC1404), and Audio Processor IC (IC1405). If audio is present at pins 22, 23 of IC1405 check for audio at Pins 2, 5, 7 and 10 of the Audio Amplifier IC (IC801). If audio is missing at pins 7 and 10 of IC1405, check the voltages, waveforms and components associated with IC801, and Q801.

VIDEO

Inject a video signal at pin 1 of Plug (1M) and check for video on CRT. If video is present, refer to "IF-AGC" section of this troubleshooting guide. If there is no video on CRT, check for a video waveform at pin 1, of Video/Deflection Processor IC (IC2301). If there is no Video at pin 1, check voltages, waveforms and components associated with pins 1, 7, 40, and 41 of IC2301. If video is present at pin 40 and 41 of IC2301, refer to the "Chroma" section of this troubleshooting guide.

CRT NECK ASSEMBLY



MISCELLANEOUS ADJUSTMENTS

PRETUNING

NOTE: All procedures require an antenna connected and power applied to the set. Select TV / CATV Switch setting. Pressing the ENTER button will escape any menu.

AUTO MEMORY

1. Press the Menu button until the Set up Menu appears.
2. Press the Select button to highlight AUTO SEARCH.
3. Press the adjust button to display the Status menu.
4. Press the adjust button. Available channels are scanned and stored in memory.

ADD/DELETE CHANNELS

1. Select channel.
2. Press the Menu button until the Set up Menu appears.
3. Press the Select button to highlight FAV CHANNEL.
4. Press the adjust button to display the Status menu.
5. Press the adjust button to select "SAVED" or "SKIPPED".
6. Repeat steps one through five to add or delete other channels.

CLOCK SETTING

1. Press the Menu button until the Set up Menu appears.
2. Press the Select button to highlight TIME SET.
3. Press the adjust button to display the Status menu.
4. Using the direct access channel buttons enter the time.
5. Press the adjust button to start clock.

SLEEP TIMER

1. Press the Menu button until the Features Menu appears.
2. Press the Select button to highlight SLEEP TIMER.
3. Press the adjust button to display the Status menu.
4. Press the adjust button to select 15 minutes, or 30 minutes to 4 hours in 30 minute steps.

This set employs Digital customer controls. All adjustments were performed at MASTER RESET unless otherwise indicated. Band select to Broadcast TV.

B+ ADJUSTMENT

Connect a digital DC voltmeter to CR3410 (Anode), low side to Ground. Set Brightness, Picture, and Color controls to MINIMUM. With AC line voltage set to 120 VAC. Adjust B+ control (R3418) for 130 VDC +/- 1 VDC.

HIGH VOLTAGE CHECK

Tune in a picture. Set Brightness, Picture, and Color controls to MINIMUM. Connect a high voltage probe to CRT anode. High Voltage must read 28.5 KV to 30.5 KV. High Voltage must never exceed 30.5 KV.

RF AGC ADJUSTMENT

Tune in a picture. Adjust AGC control (R1222) Clockwise until snow appears in picture, then Counterclockwise to a point where snow disappears.

HORIZONTAL WIDTH ADJUSTMENT

Tune in a picture. Adjust Horizontal Width control (R3249) for a slight overscan.

VIDEO LEVEL ADJUSTMENT

Tune in a color bar pattern. Connect an oscilloscope to pin 1 (IC2301), low side to Ground. Adjust Composite Video Control (R1226) for 0.3 V p-p.

AUDIO LEVEL ADJUSTMENT

Tune in a picture. Set volume to 1/4 range. Adjust Sub Volume (R1247) for desired volume level.

COLOR PURITY ADJUSTMENT

Operate the receiver for 15 minutes. Use a degaussing coil to degauss the CRT and mounting hardware. Tune in a Green raster pattern. Loosen the Deflection Yoke Clamp Screw and slide the Deflection Yoke backward to obtain a vertical green band. Rotate and/or spread the purity magnet tabs to center the vertical green band. Slide the Deflection Yoke forward until a pure green screen is obtained. Check Red and Blue purity.

COLOR TEMPERATURE ADJUSTMENT

This set employs an Auto Kine Bias circuit. There is no adjustment to be performed.

CONVERGENCE ADJUSTMENT

Operate the receiver for fifteen minutes. Tune in a dot pattern. Adjust the four pole magnet tabs to converge the red and blue dots at the center of the screen. Adjust the six pole magnet tabs to converge the red/blue dots with the green dots at the center of the screen. NOTE: Rotate the two tabs of each set of magnets equally and opposite to converge vertically, and rotate both tabs in the same direction to converge horizontally. Four and Six pole magnets interact, repeat adjustment until center convergence is correct. Tune in a crosshatch pattern. Remove the rubber wedges between the Deflection Yoke and the CRT. Tilt the Deflection Yoke up or down to converge the Vertical lines at the top and bottom of the screen, and the horizontal lines at the right and left sides of the screen. Tilt the Deflection Yoke right or left to converge the Horizontal lines at the top and bottom of the screen, and the Vertical lines at the right and left sides of the screen. Repeat convergence procedure as necessary to obtain best overall convergence. Apply adhesive to wedges and replace between the Deflection Yoke and the CRT.

FACTORY MENU ADJUSTMENTS

NOTE: Access to the factory menu adjustments is obtained by simultaneously pressing the front panel MENU, VOLUME DOWN, and CHANNEL DOWN buttons. The following features are not used on this model: "CHANNEL, PROMO, VOLUME, and V FORCED". After all changes have been made use "SAVE CUST" function to save.

MENU POSITION

Press the Menu button to display menu #1. Press the Select button to highlight "HORZ POS". Press the adjust buttons to place the menu in the desired position.

COLOR SENTRY TINT LEVEL

Tune in a Color Bar pattern. Connect an oscilloscope to the Red Cathode, low side to Ground. Press the Menu button to display menu #1. Press the Select button to highlight "CS TINT". Press the adjust buttons to balance the second and third bars of waveform.

COLOR SENTRY COLOR LEVEL

Tune in a Color Bar pattern. Connect an oscilloscope to the Red Cathode, low side to Ground. Press the Menu button to display menu #1. Press the Select button to highlight "CS COLOR". Press the adjust buttons until waveform measures 120 V p-p.

ENVIRONMENT

Press the Menu button to display menu #1. Press the Select button to highlight "ENVIRONMENT". Press the adjust buttons to select S2.

BRIGHTNESS

Press the Menu button to display menu #2. Press the Select button to highlight "BRIGHT". Press the adjust buttons until the brightness is sufficient for a normal picture.

STEREO/SAP ADJUSTMENTS

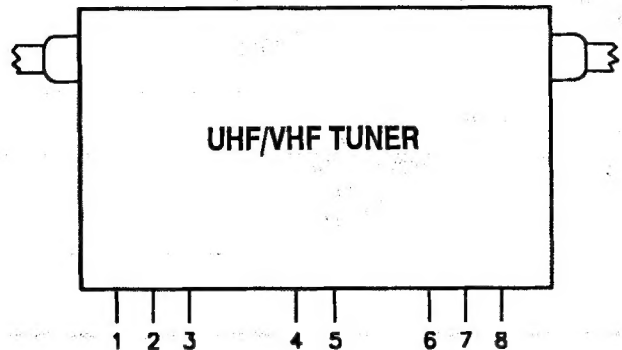
Servicing not recommended. Replace complete unit.

TUNER VOLTAGE CHART

	1	2	3	4	5	6	7	8
VHF Low Band	4.8V	0V	0V	0V	1.9V	0V	8.0V	11.8V
VHF High Band	4.8V	0V	0V	0V	12.8V	11.9V	8.0V	11.8V
UHF Band	4.8V	11.7V	0V	0V	8.3V	0V	8.1V	0V

NOTE: VHF Low Band voltages taken on channel 2.
VHF High Band voltages taken on channel 7.
UHF Band voltages taken on channel 14.

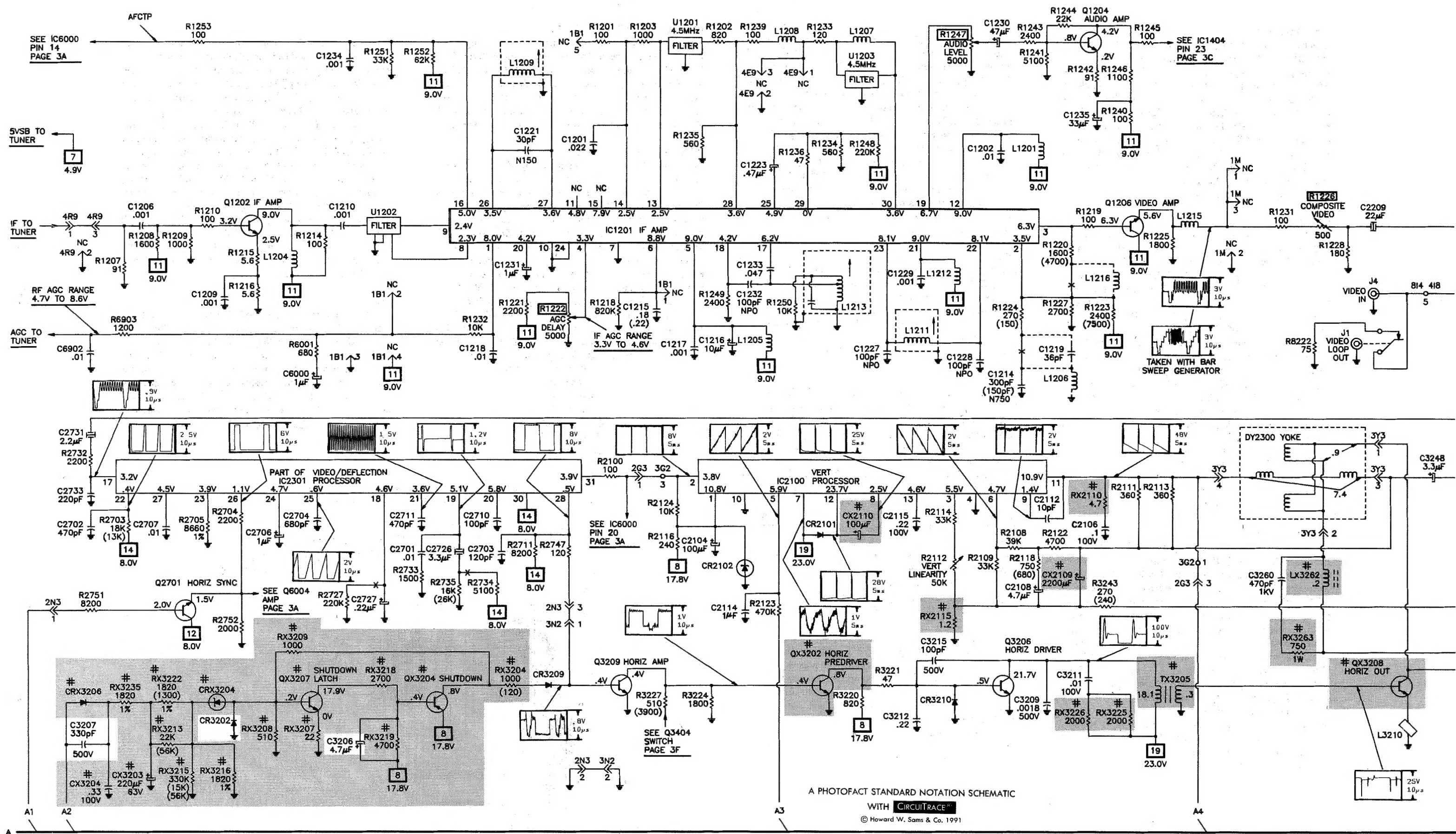
TUNER TERMINAL GUIDE



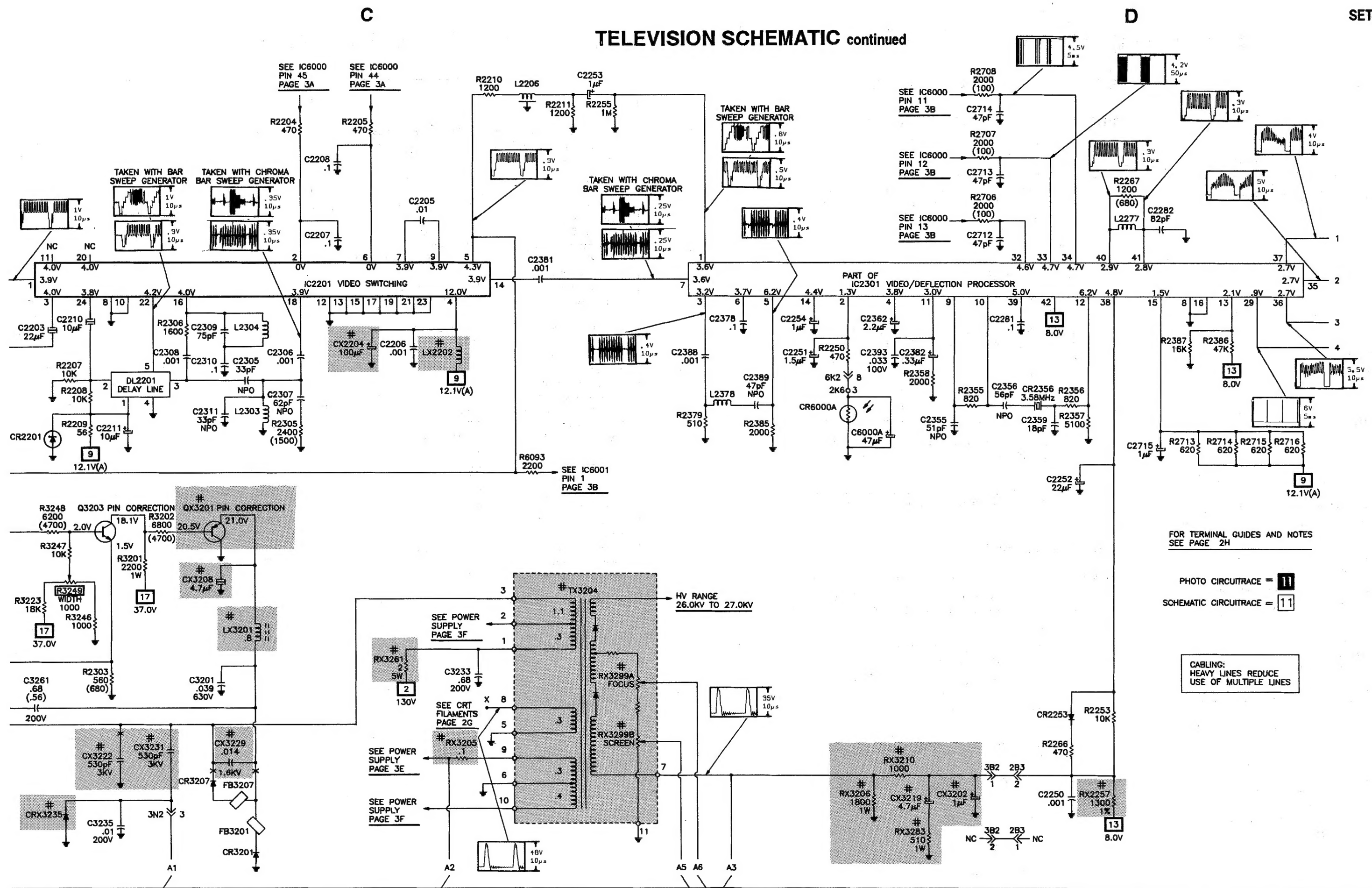
A

TELEVISION SCHEMATIC

B



TELEVISION SCHEMATIC continued

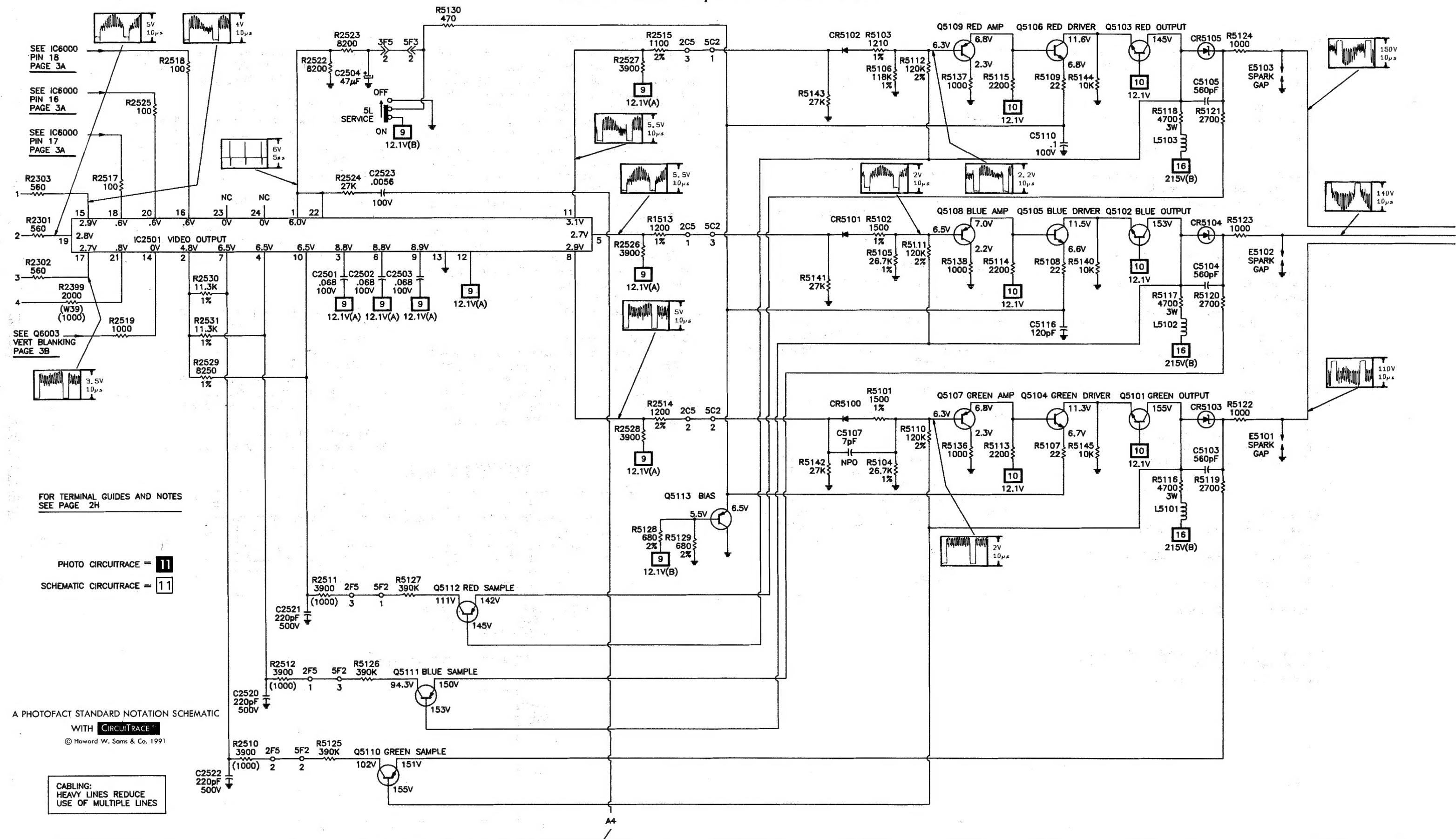


FOR TERMINAL GUIDES AND NOTES
SEE PAGE 2H

PHOTO CIRCUITRACE = 11
SCHEMATIC CIRCUITRACE = 11

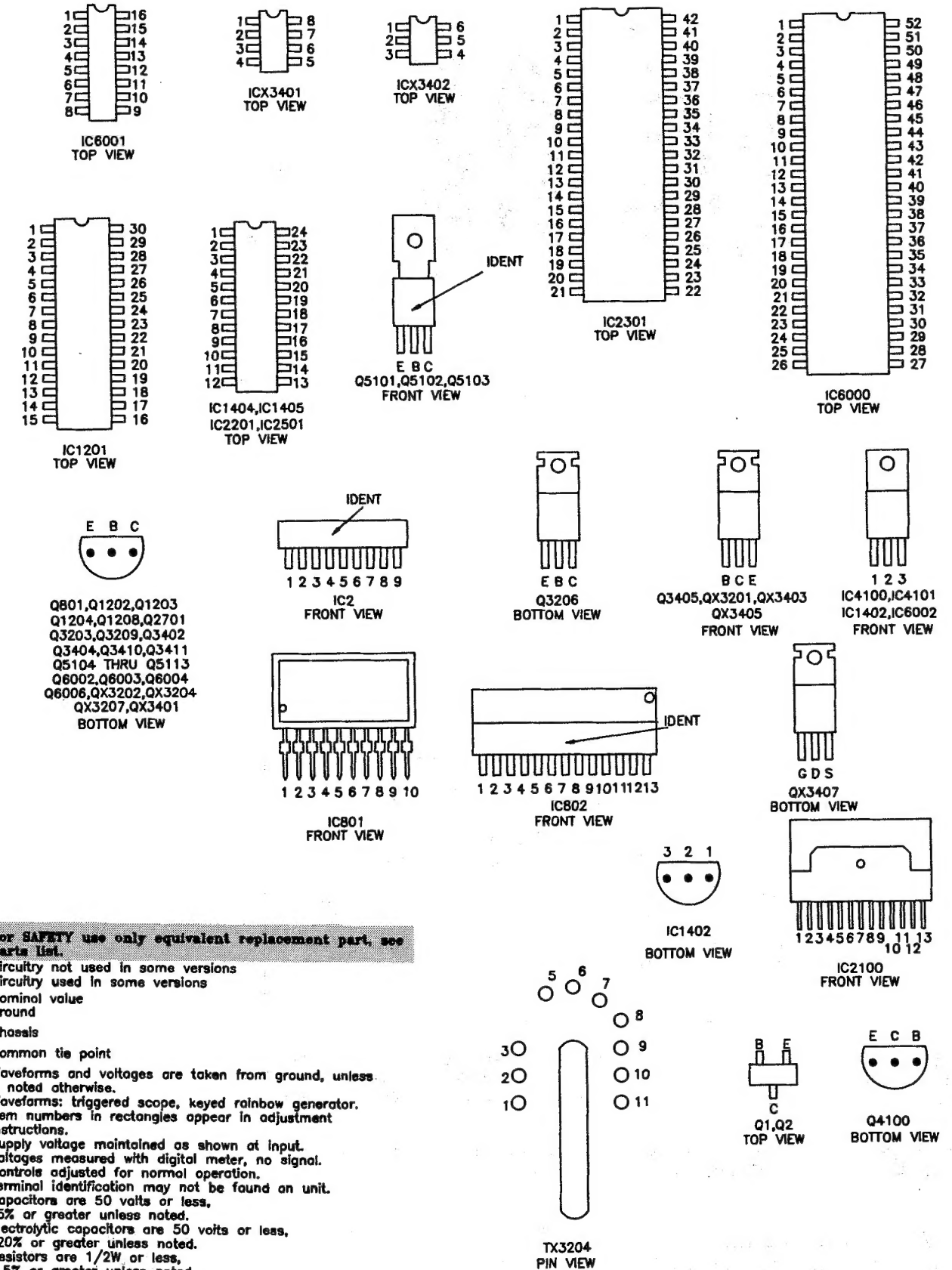
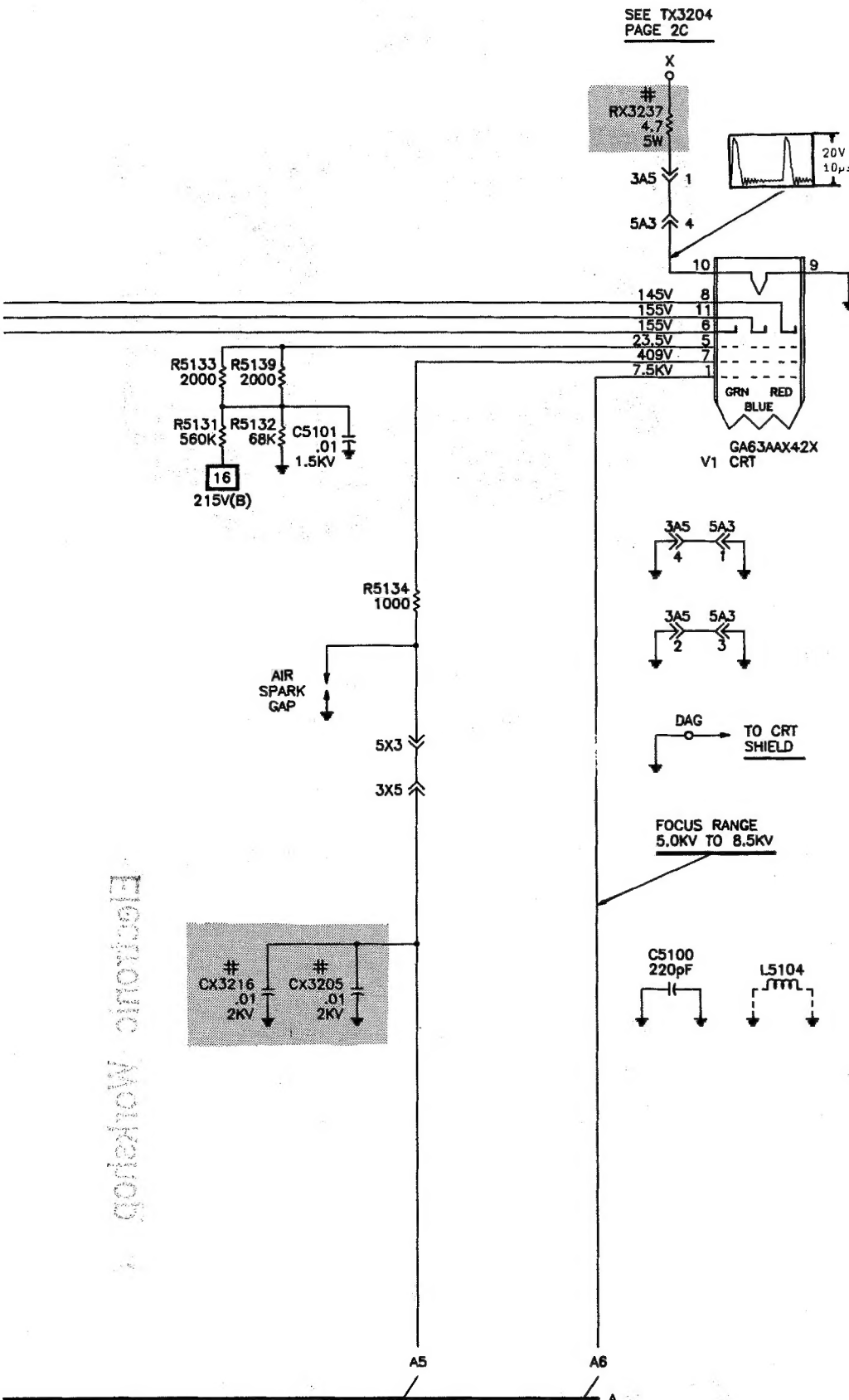
CABLING:
HEAVY LINES REDUCE
USE OF MULTIPLE LINES

VIDEO OUTPUT/CRT SCHEMATIC



VIDEO OUTPUT/CRT SCHEMATIC continued

TERMINAL GUIDES AND NOTES



For SAFETY use only equivalent replacement part, see parts list.

—X— Circuitry not used in some versions

--- Circuitry used in some versions

⊗ Nominal value

⊕ Ground

⬇ Chassis

⬆ Common tie point

Waveforms and voltages are taken from ground, unless noted otherwise.

Waveforms: triggered scope, keyed rainbow generator. Item numbers in rectangles appear in adjustment instructions.

Supply voltage maintained as shown at input.

Voltages measured with digital meter, no signal.

Controls adjusted for normal operation.

Terminal identification may not be found on unit.

Capacitors are 50 volts or less, 5% or greater unless noted.

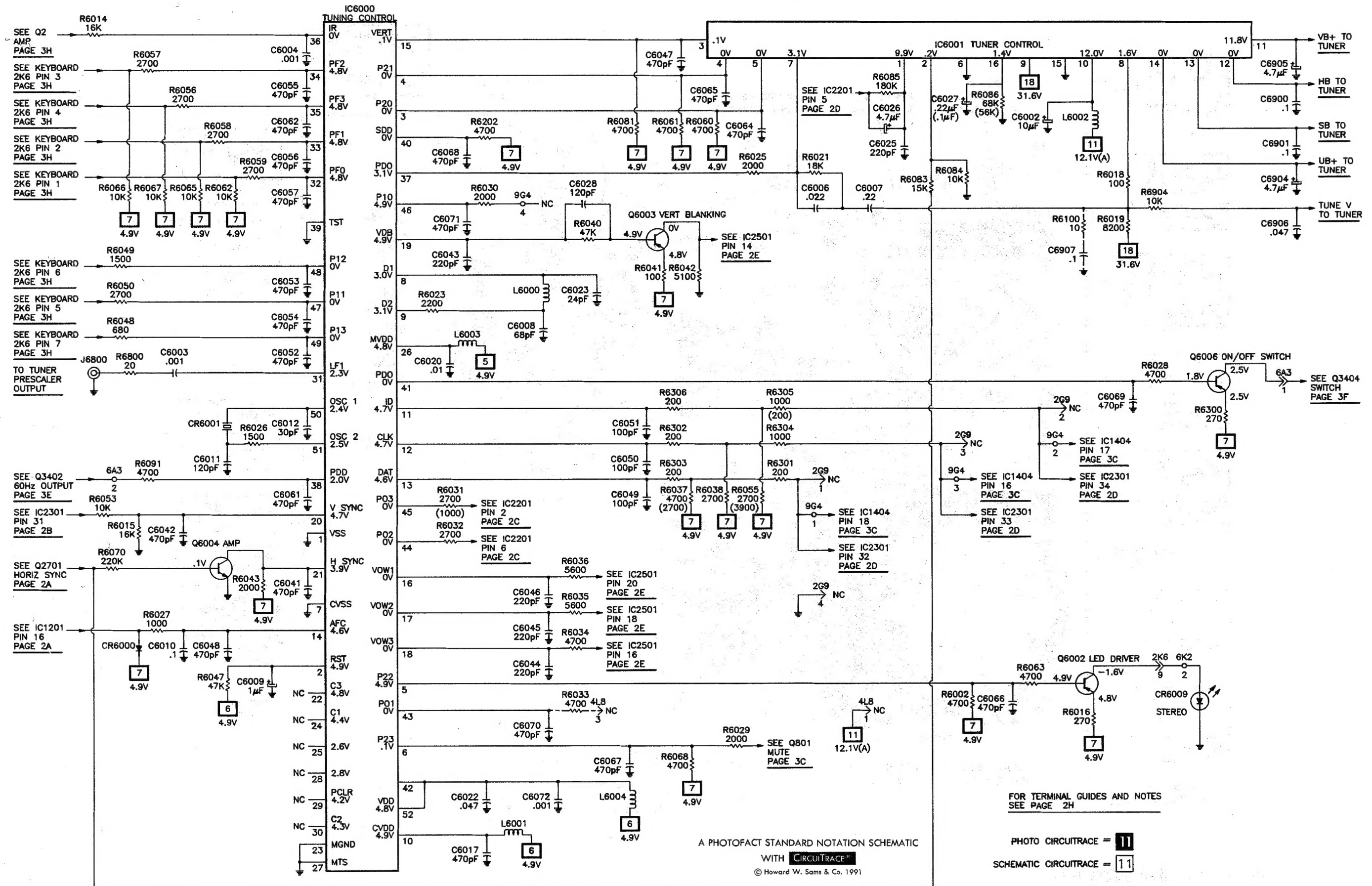
Electrolytic capacitors are 50 volts or less, 20% or greater unless noted.

Resistors are 1/2W or less, 5% or greater unless noted.

Value in () used in some versions.

Measurements with switching as shown, unless noted.

FOR TERMINAL GUIDES AND NOTES
SEE PAGE 2H

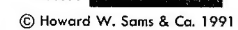


A PHOTOFAC STANDARD NOTATION SCHEMATIC

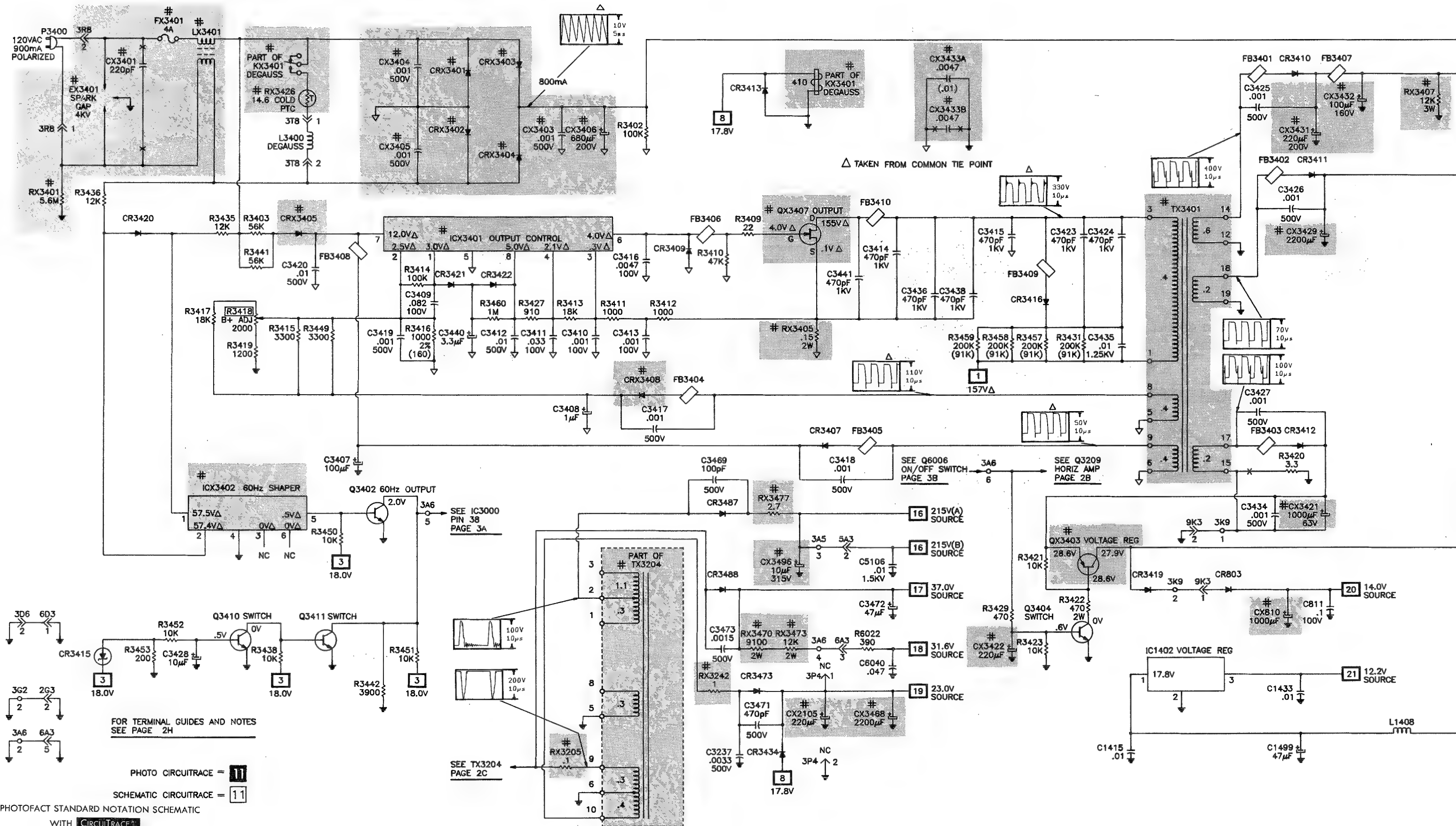
WITH CIRCUITRACE™

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D



POWER SUPPLY SCHEMATIC



FOR TERMINAL GUIDES AND NOTES
SEE PAGE 2H

PHOTO CIRCUITRACE = 11

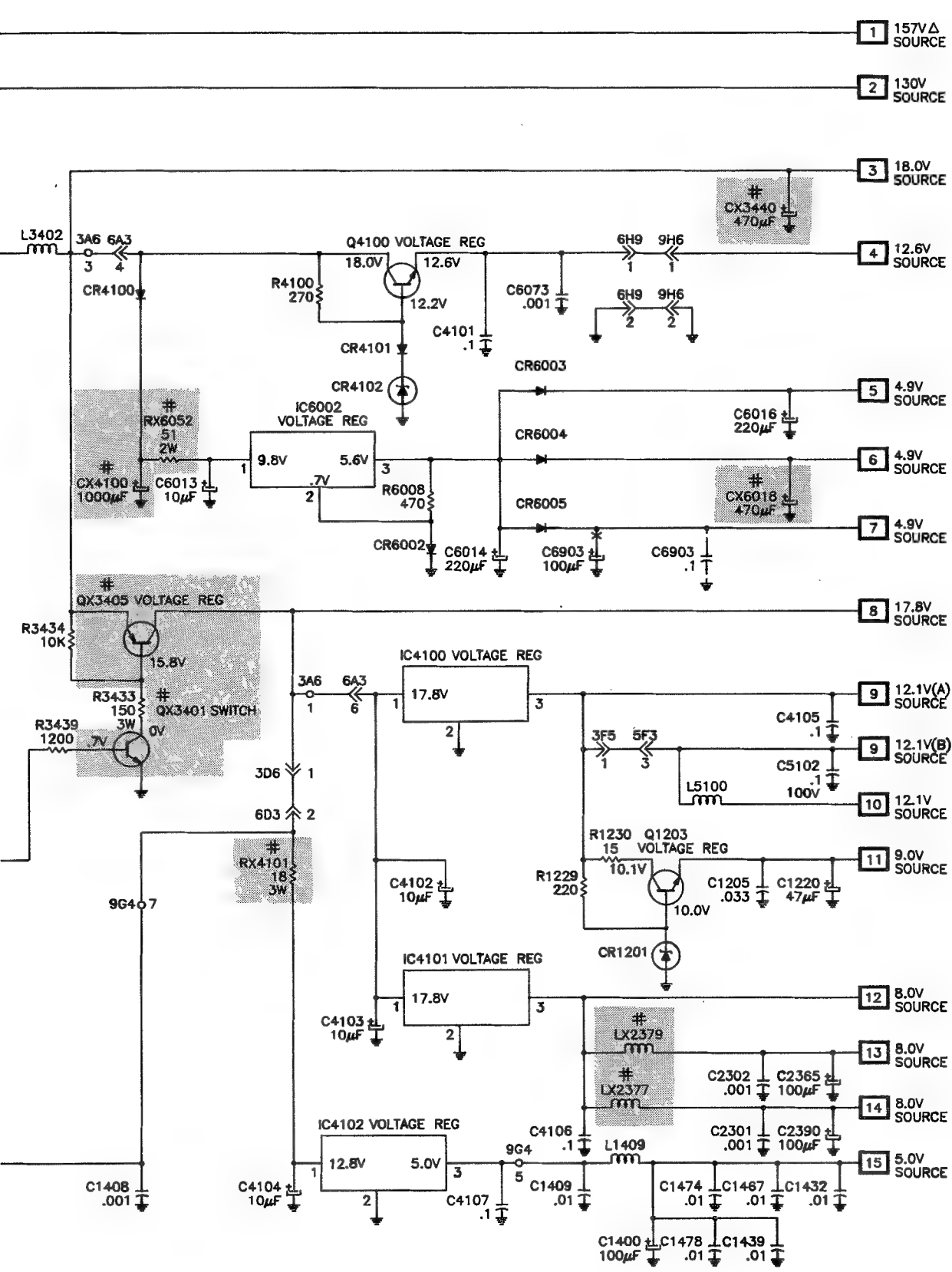
SCHEMATIC CIRCUITTRACE = 11

A PHOTOFACT STANDARD NOTATION SCHEMATIC

WITH **CIRCUITRACE** PC

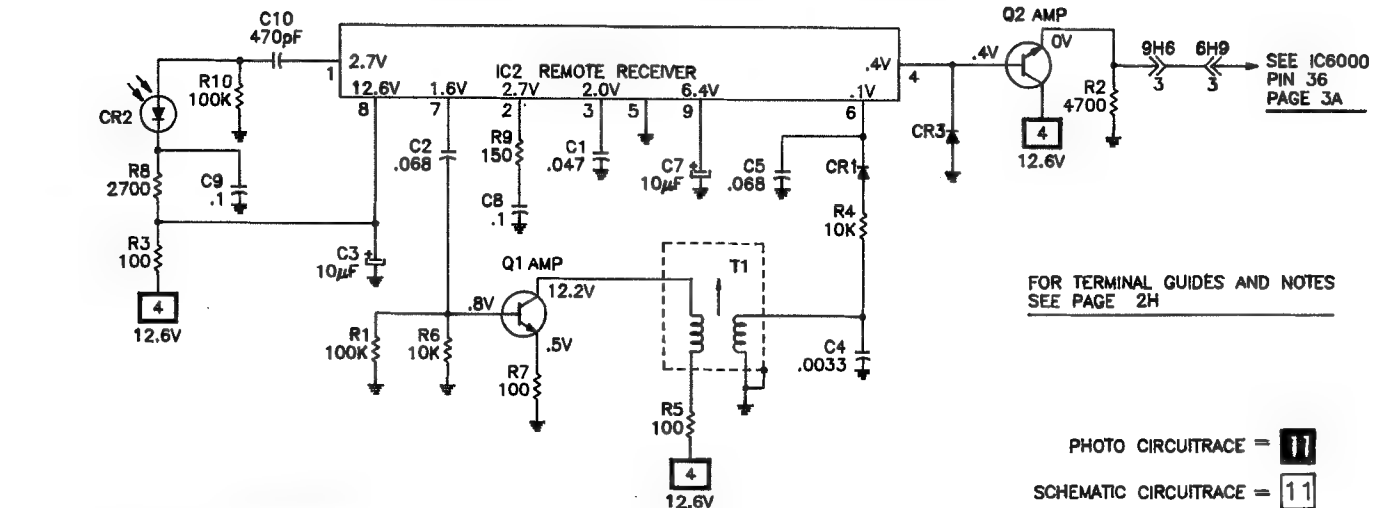
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POWER SUPPLY SCHEMATIC continued



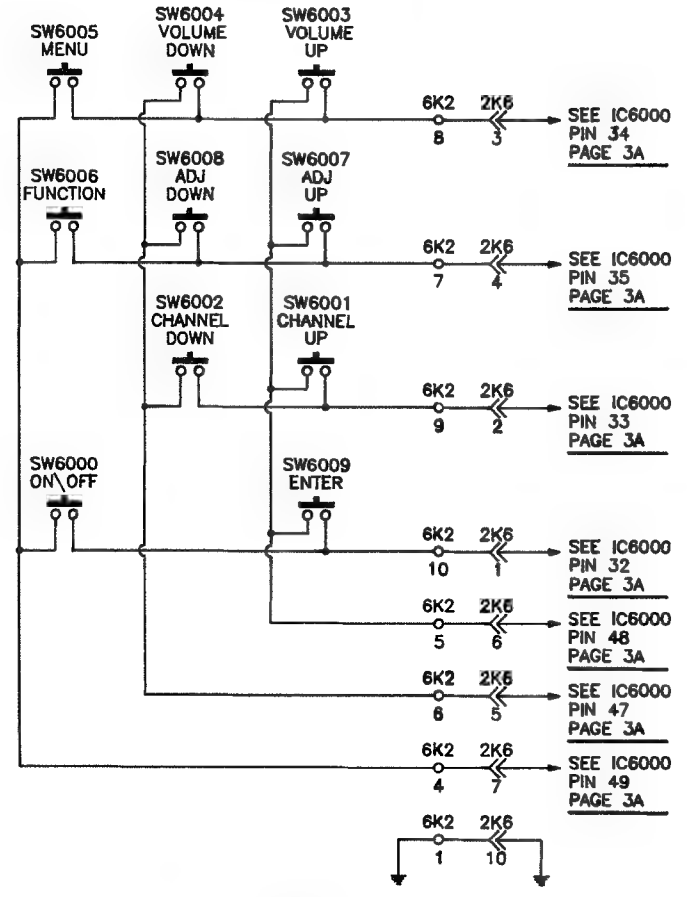
G

REMOTE RECEIVER SCHEMATIC



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KEYBOARD SCHEMATIC

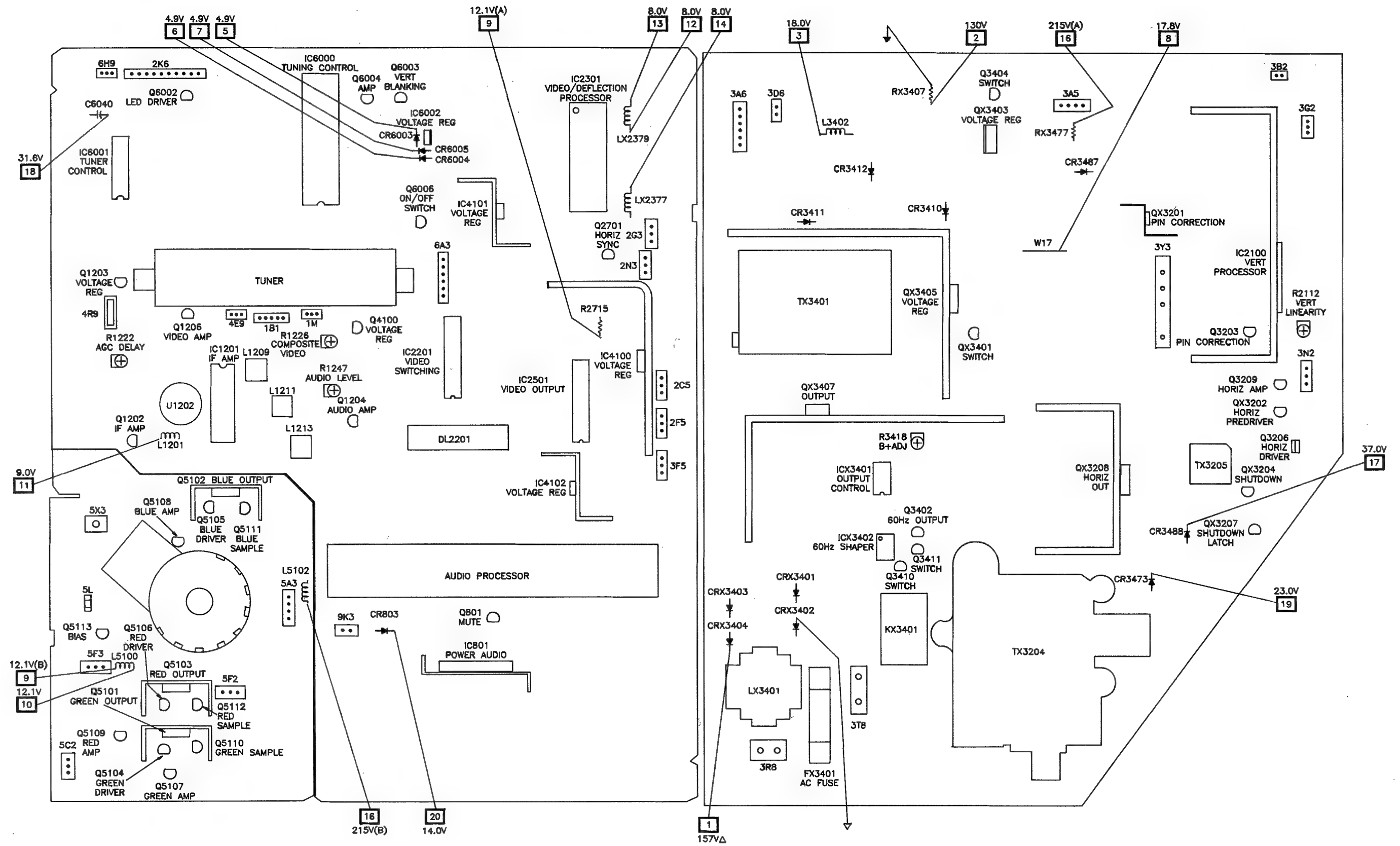


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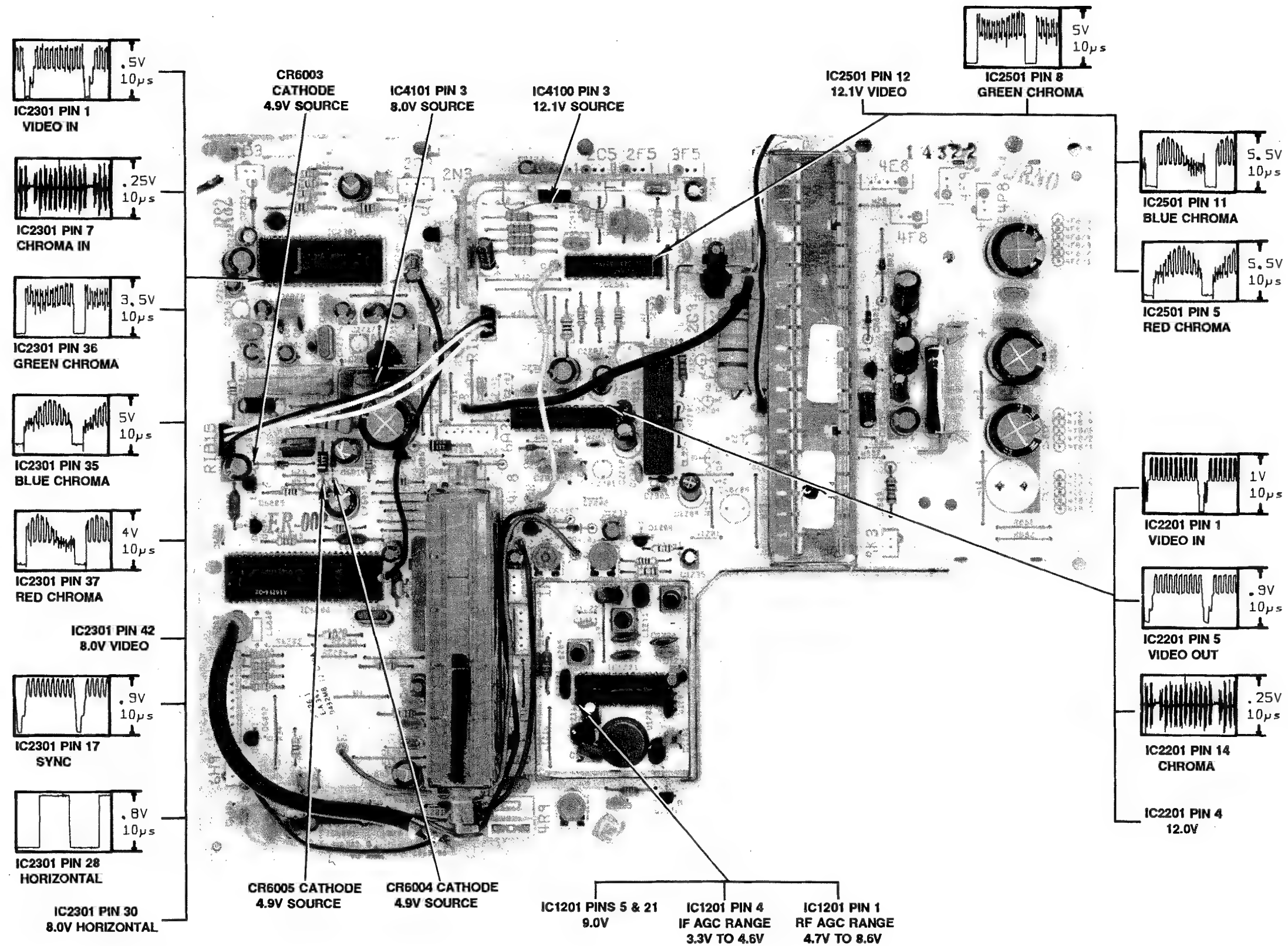
H

ZENITH
MODEL SF25931Y2

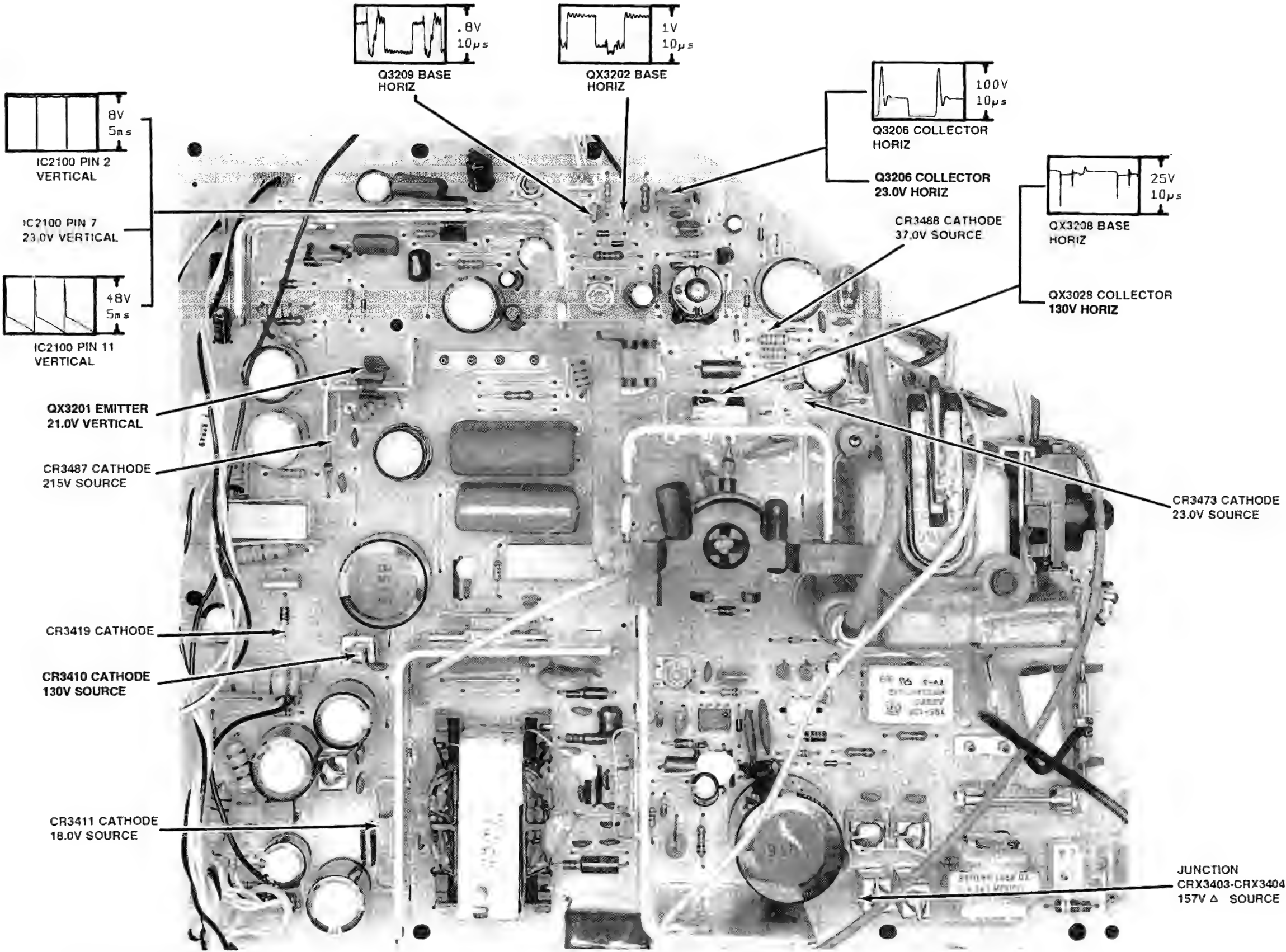
PLACEMENT CHART



MAIN BOARD - TOP VIEW

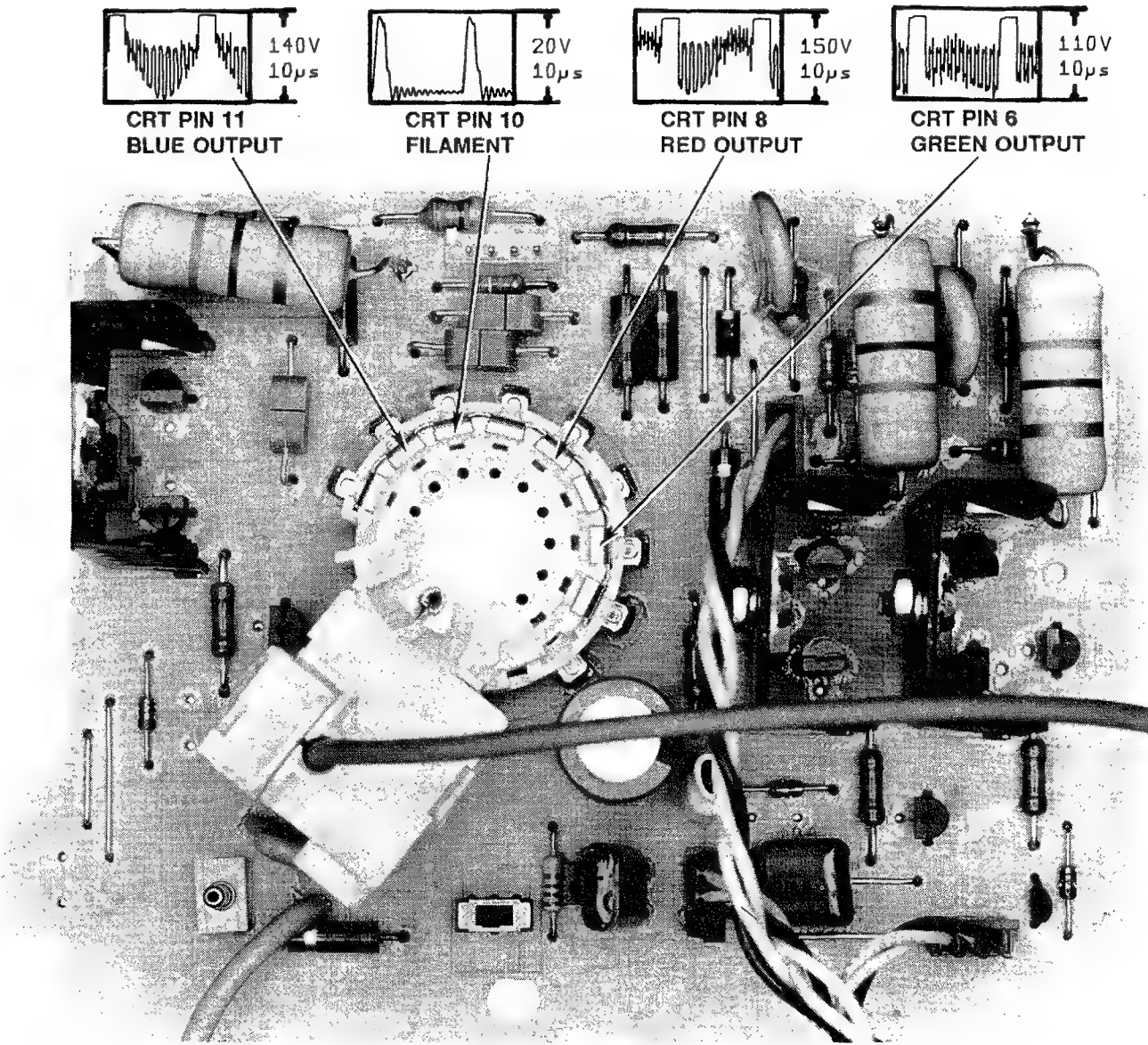


SMPS/SWEEP BOARD - TOP VIEW



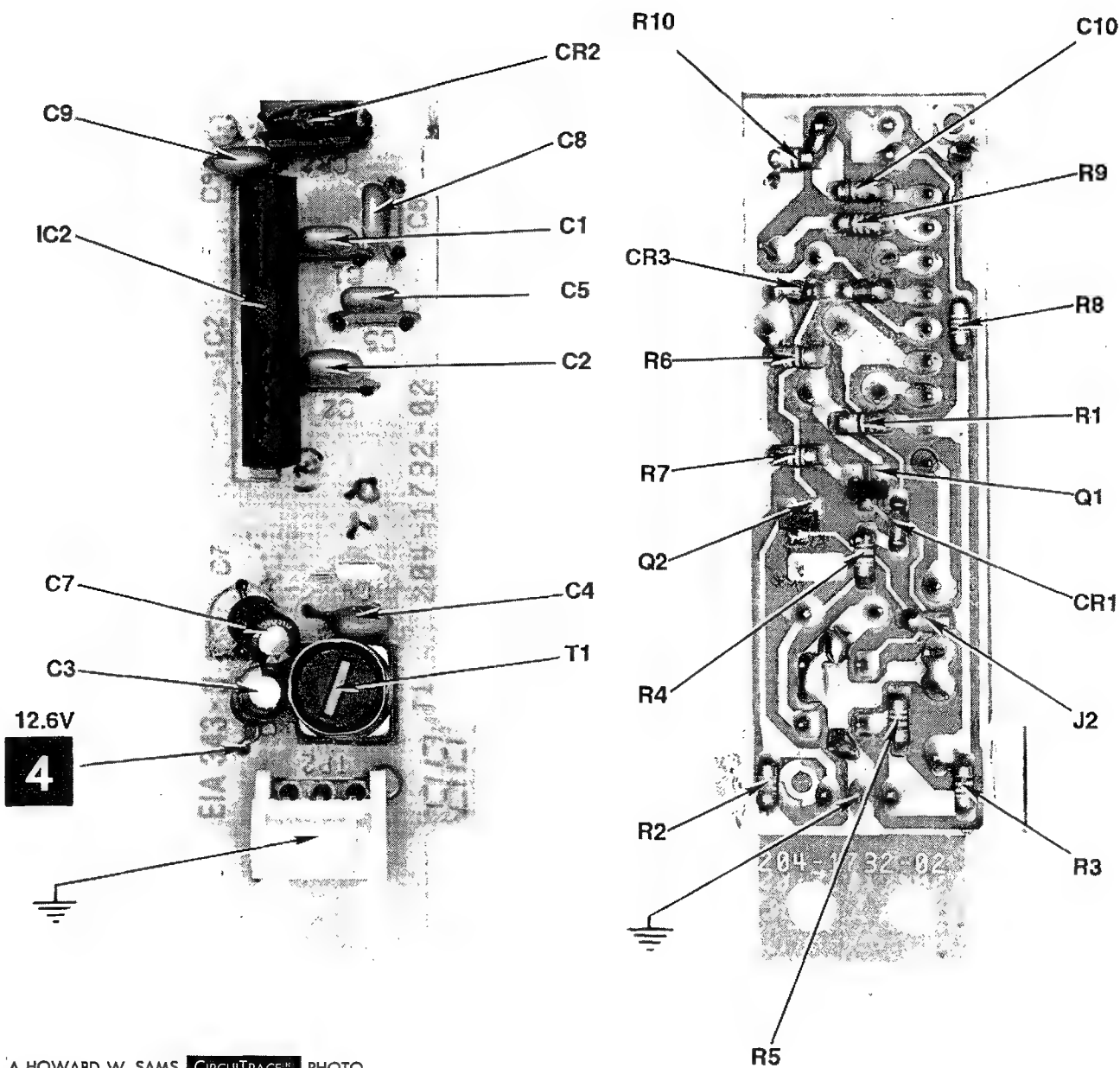
A HOWARD W. SAMS QUICK-CHECKS™ PHOTO

CRT BOARD - TOP VIEW



A HOWARD W. SAMS QUICK-CHECKS™ PHOTO

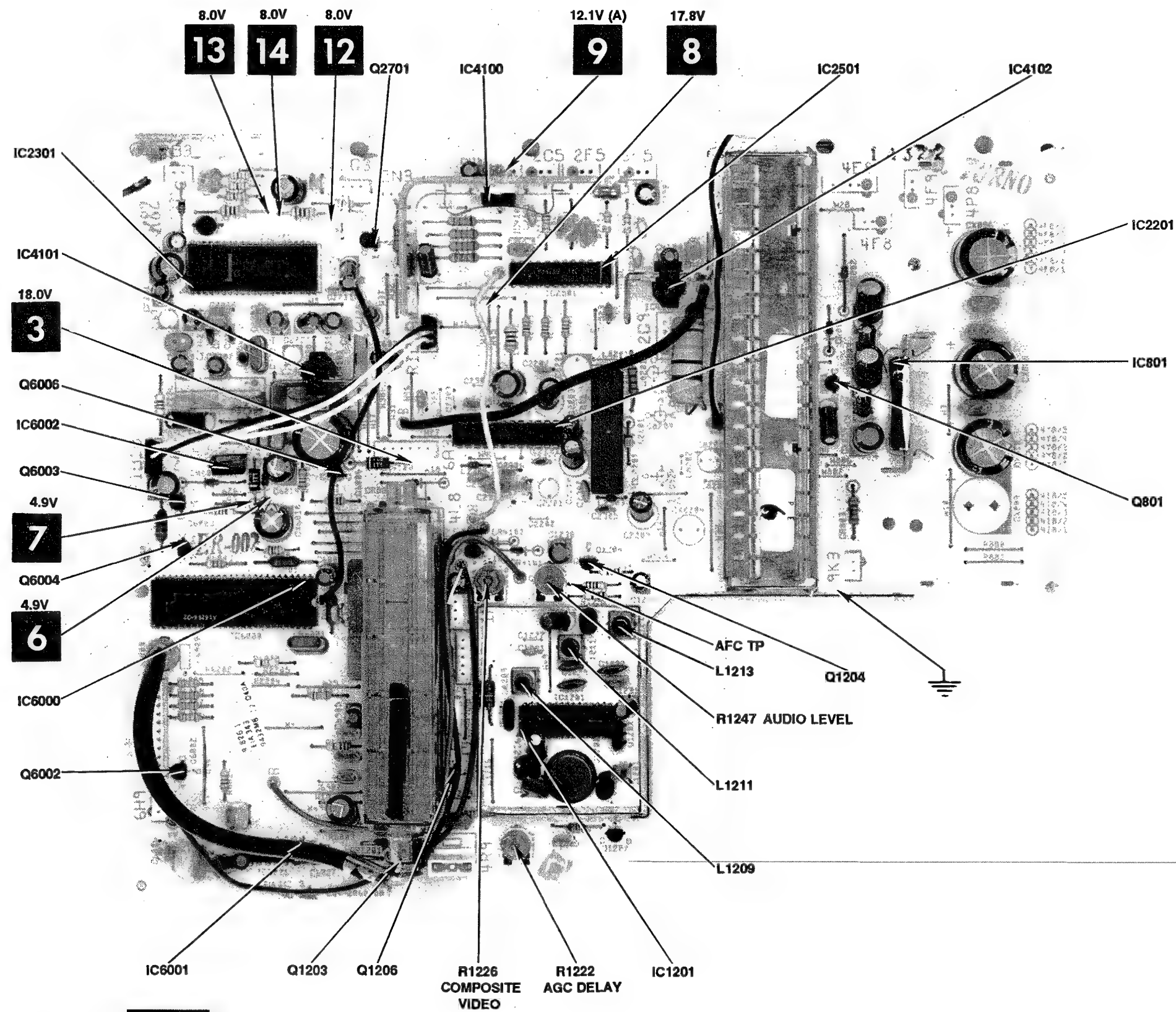
REMOTE RECEIVER BOARD



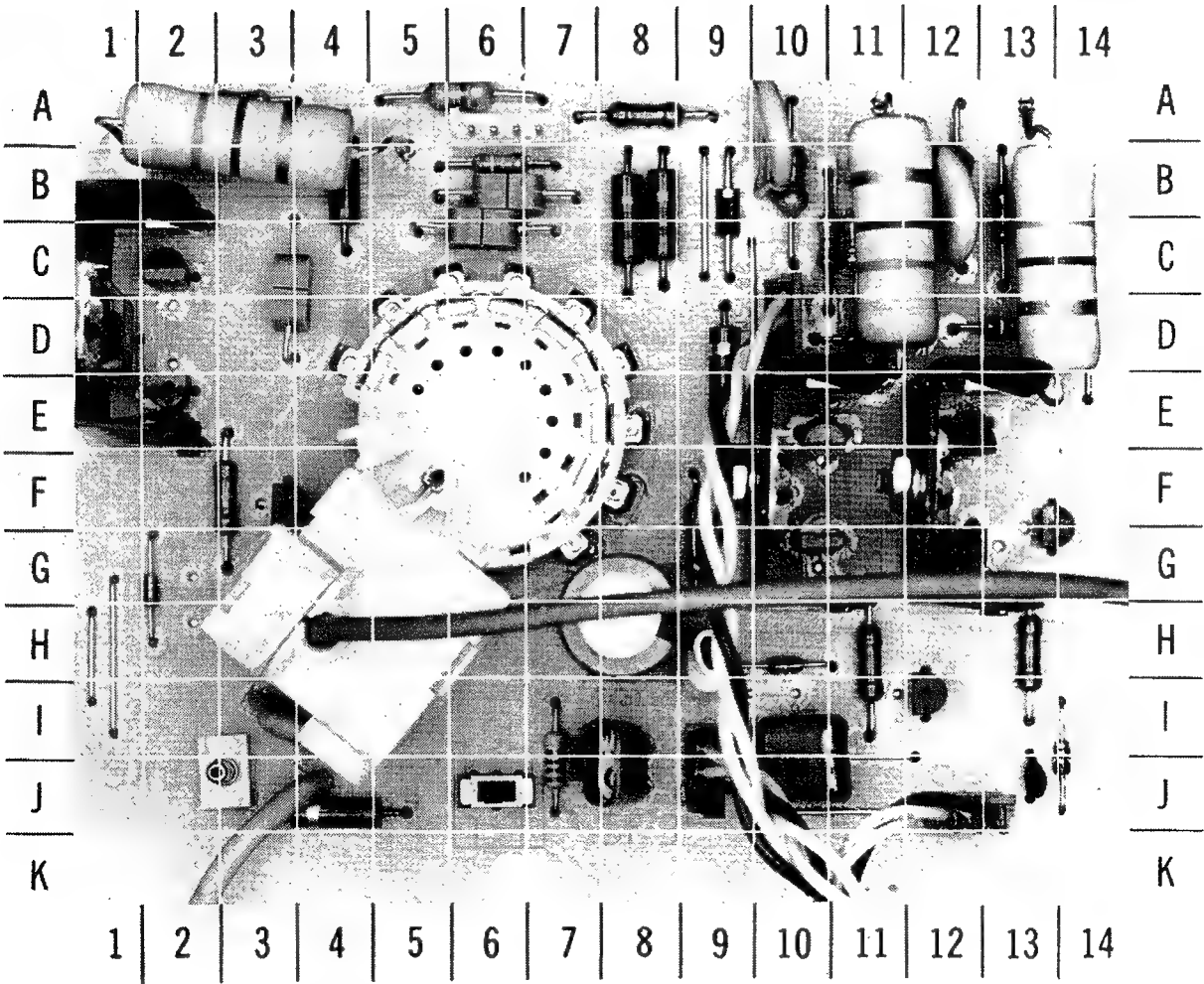
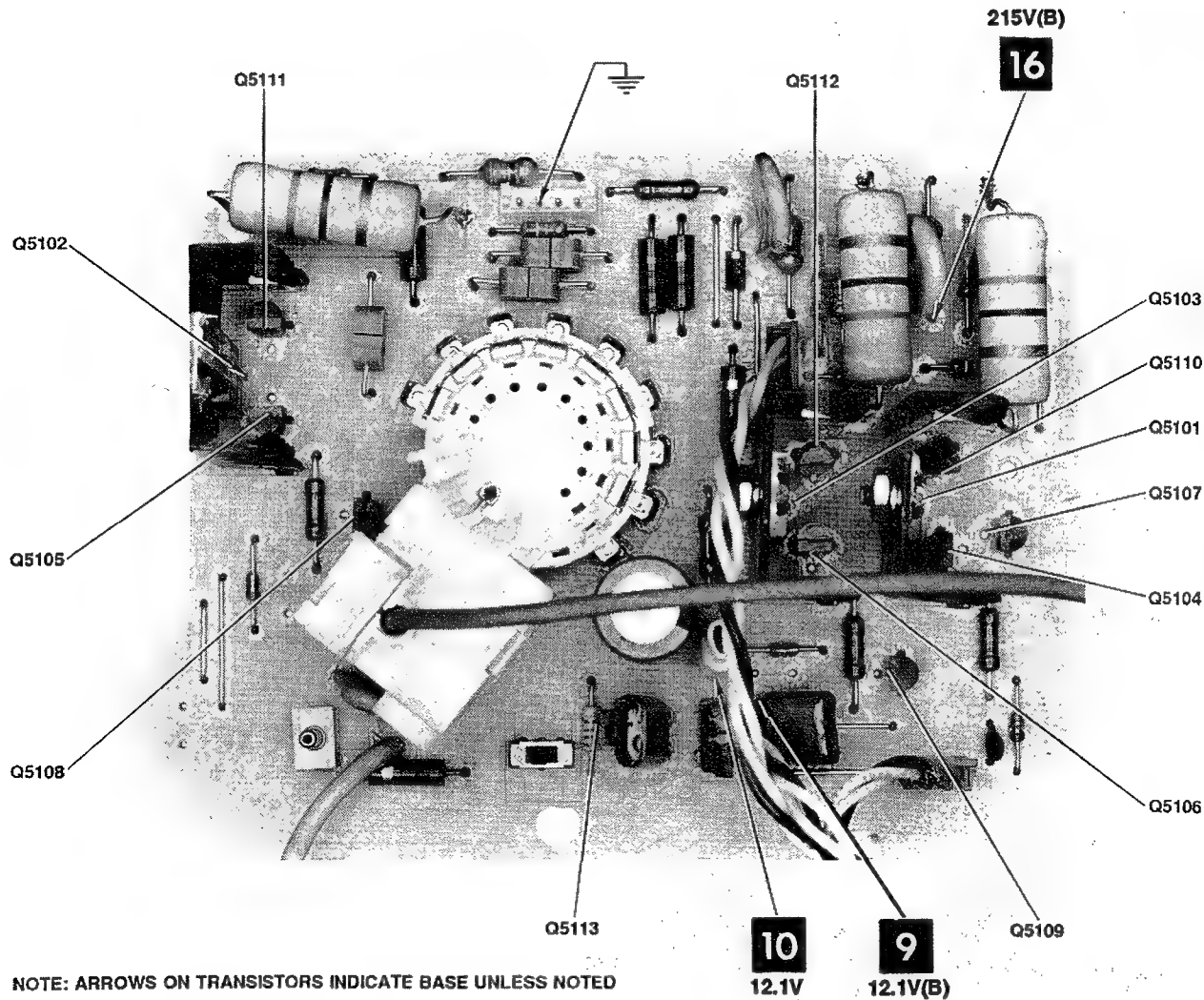
A HOWARD W. SAMS CIRCUITTRACE® PHOTO

NOTE: ARROWS ON TRANSISTORS INDICATE BASE UNLESS NOTED

MAIN BOARD - TOP VIEW



CRT BOARD - TOP VIEW



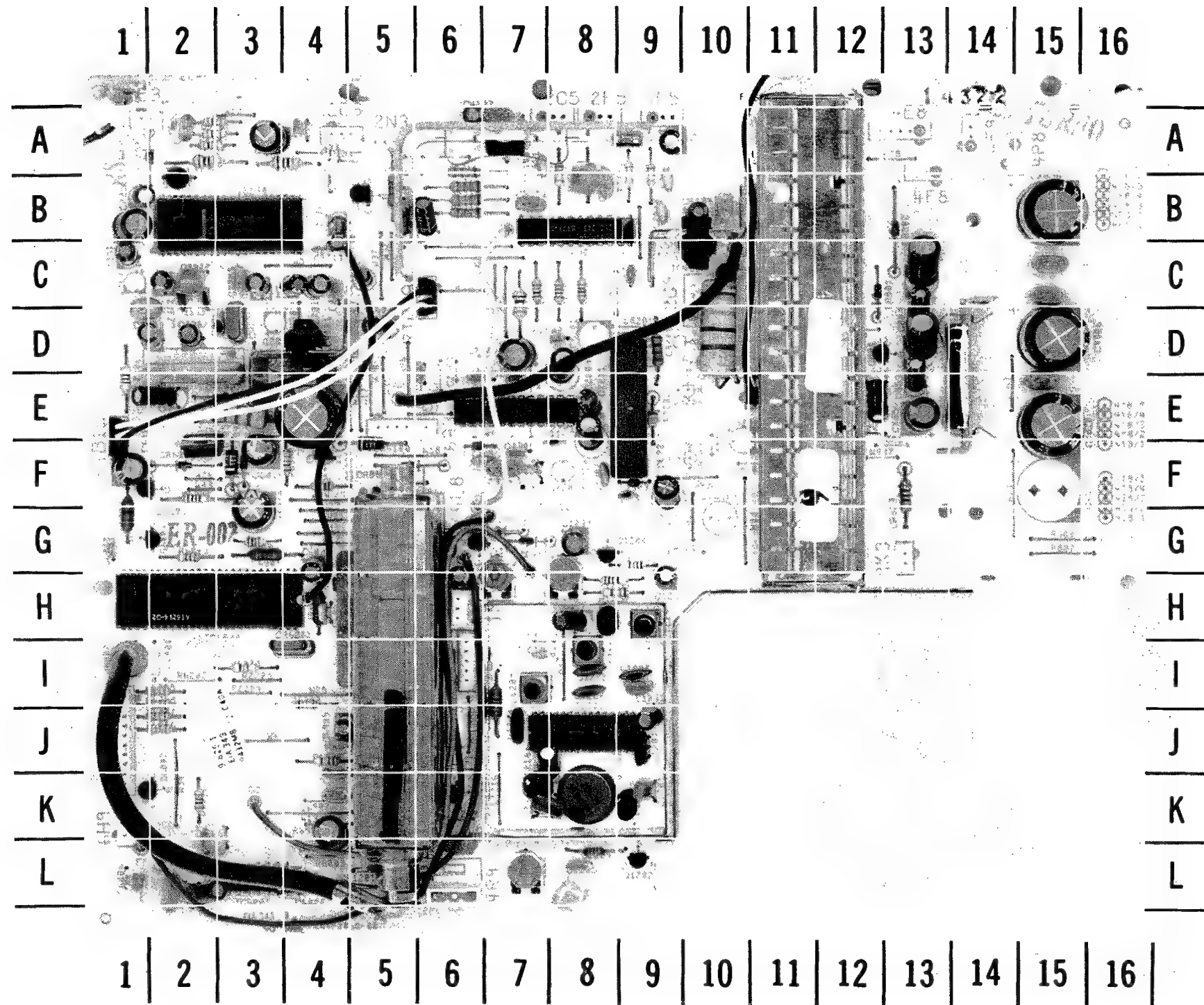
A HOWARD W. SAMS GRIDTRACE™ PHOTO

A HOWARD W. SAMS CIRCUITRACE™ PHOTO

CRT BOARD - TOP VIEW, GRIDTRACE LOCATION GUIDE

C5101	A-10	CX5111	H-8	Q5109	I-12	R5124	B-8
C5102	J-10	E5101	B-6	Q5110	E-12	R5125	D-13
C5103	B-13	E5102	C-3	Q5111	C-2	R5126	B-6
C5104	A-3	E5103	C-6	Q5112	E-10	R5127	D-11
C5105	C-11	L5100	H-9	Q5113	J-7	R5131	A-8
C5106	B-12	L5101	B-12	R5110	H-13	R5132	G-9
C5107	J-13	L5102	A-6	R5111	F-3	R5134	J-4
C5110	J-8	L5103	B-10	R5112	H-11	R5135	D-9
C5118	I-3	Q5101	F-12	R5116	C-14	R5146	J-7
CR5100	J-14	Q5102	D-1	R5117	A-2	5A3	A-6
CR5101	G-2	Q5103	F-10	R5118	B-11	5C2	J-12
CR5102	H-10	Q5104	G-12	R5119	B-13	5F2	D-10
CR5103	B-14	Q5105	E-2	R5120	A-3	5F3	J-9
CR5104	B-3	Q5106	G-10	R5121	C-10	5L	J-6
CR5105	C-11	Q5107	F-14	R5122	B-8	5X3	J-3
CR5106	B-9	Q5108	F-3	R5123	B-4		

MAIN BOARD - TOP VIEW

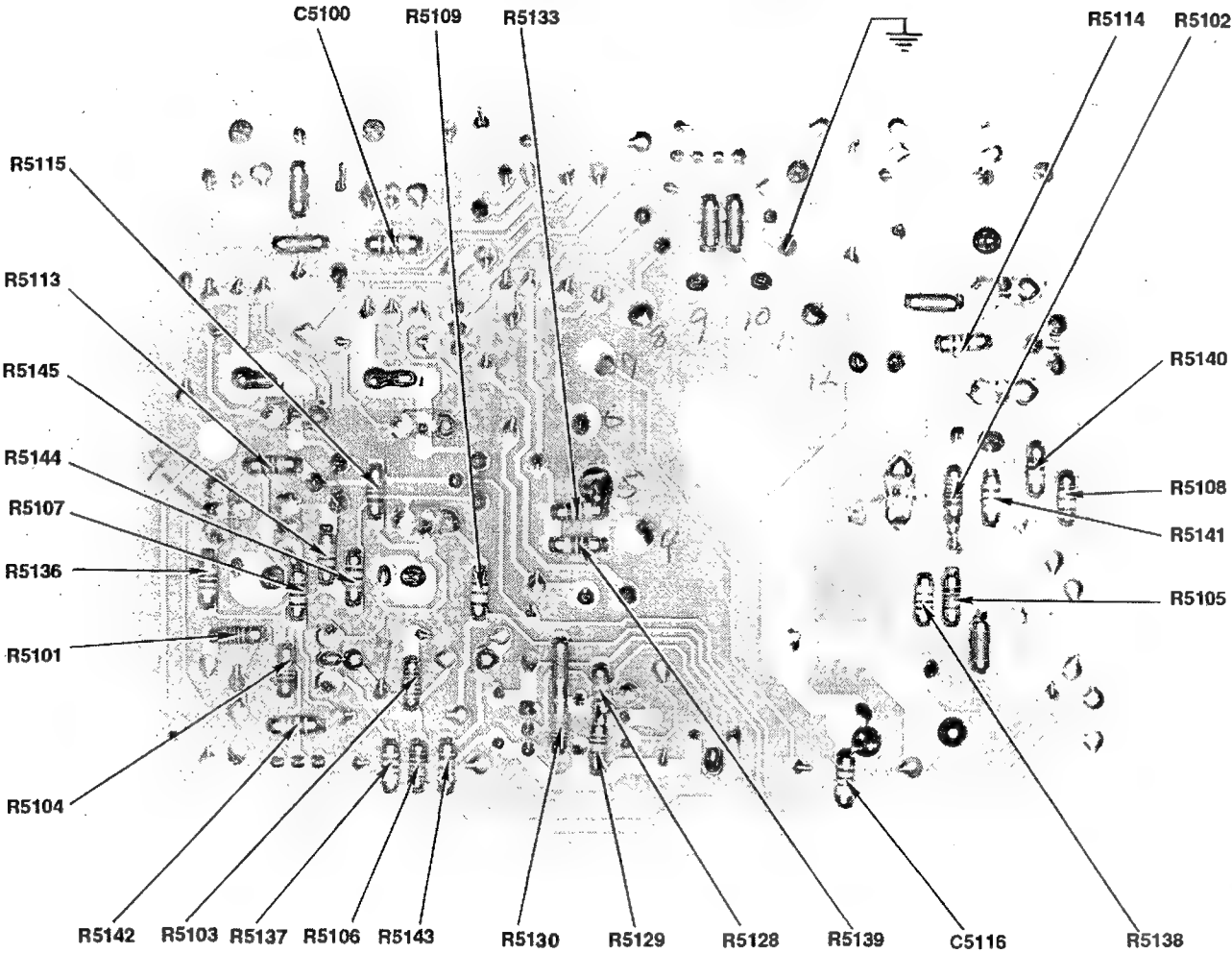


A HOWARD W. SAMS GRIDTRACETM PHOTO

MAIN BOARD - TOP VIEW, GRIDTRACE LOCATION GUIDE

C803	C-13	C2715	B-6	IC4100	A-7	R2715	B-6
C805	C-15	C2726	C-5	IC4101	D-4	R2716	A-6
C811	E-15	C2727	C-4	IC4102	C-10	R2751	B-5
C813	E-12	C2731	C-4	IC6000	G-4	R6016	K-2
C853	E-13	C4101	G-6	IC6001	L-4	R6028	I-3
C855	C-15	C4102	A-6	IC6002	F-2	R6041	F-2
C1201	K-9	C4103	D-4	L1201	K-9	R6043	G-2
C1205	L-8	C4104	B-10	L1204	L-8	R6056	J-2
C1214	L-6	C4105	A-7	L1205	K-7	R6057	J-2
C1215	K-7	C4106	D-3	L1207	I-7	R6058	I-2
C1216	J-7	C4107	B-10	L1209	I-7	R6059	I-2
C1220	L-5	C6000	H-6	L1211	I-8	R6083	I-4
C1221	I-7	C6002	L-2	L1212	H-8	R6300	F-4
C1223	H-8	C6006	L-1	L1213	H-9	RX4101	D-10
C1227	I-8	C6007	L-2	L1215	I-6	RX6052	E-3
C1228	I-8	C6009	G-4	L2206	D-2	U1201	J-9
C1230	G-8	C6010	L-2	L2277	B-2	U1202	K-8
C1231	J-9	C6013	E-2	L2303	F-9	U1203	J-7
C1232	I-9	C6014	F-3	L2304	F-6	1B1	I-6
C1233	I-9	C6016	F-1	L2378	D-1	1M	H-6
C1235	H-9	C6020	G-1	L6000	G-3	2B3	A-1
C2203	D-8	C6022	H-4	L6001	G-3	2G3	A-4
C2205	E-6	C6026	D-5	L6002	L-4	2K6	I-1
C2206	E-7	C6027	L-4	L6003	G-1	2N3	A-5
C2207	D-8	C6040	L-2	L6004	H-4	4R9	L-6
C2208	D-6	C6900	J-4	LX2202	C-7	6A3	E-5
C2209	F-9	C6901	K-4	LX2377	A-4	6H9	K-1
C2210	E-8	C6903	K-4	LX2379	A-2	9K3	G-13
C2211	E-8	C6904	L-5	Q801	D-12		
C2251	C-1	C6905	J-4	Q1202	L-9		
C2252	B-1	C6906	K-4	Q1203	L-5		
C2253	D-2	CR801	C-12	Q1204	G-8		
C2254	C-3	CR802	B-13	Q1206	K-6		
C2281	A-2	CR803	F-13	Q2701	B-5		
C2305	F-9	CR804	F-6	Q4100	G-6		
C2306	F-7	CR1201	L-5	Q6002	K-1		
C2307	F-8	CR2201	E-9	Q6003	F-1		
C2308	F-7	CR2253	A-2	Q6004	G-2		
C2309	F-6	CR2356	D-3	Q6006	F-4		
C2310	F-7	CR4100	F-5	R1222	L-7		
C2311	F-8	CR4101	G-7	R1226	H-7		
C2355	C-2	CR4102	G-7	R1230	L-5		
C2356	D-3	CR6001	I-4	R1241	G-9		
C2362	C-2	CR6002	E-3	R1247	H-8		
C2365	B-1	CR6003	F-2	R1252	H-8		
C2378	C-2	CR6004	F-3	R1253	H-8		
C2382	D-2	CR6005	F-3	R2209	D-9		
C2389	C-2	CX804	C-13	R2250	E-1		
C2390	A-3	CX806	D-15	R2301	C-8		
C2393	C-3	CX810	E-15	R2302	C-8		
C2501	B-8	CX812	D-13	R2303	C-7		
C2502	B-8	CX854	E-13	R2386	D-3		
C2503	B-7	CX856	B-15	R2399	A-4		
C2504	A-9	CX2204	D-7	R2510	B-9		
C2520	B-9	CX4100	E-4	R2512	B-9		
C2521	A-7	CX6018	G-3	R2513	B-8		
C2522	B-9	DL2201	E-9	R2514	B-8		
C2523	C-9	IC801	D-14	R2706	A-2		
C2701	C-4	IC1201	J-7	R2707	A-2		
C2706	B-4	IC2201	E-8	R2708	A-2		
C2707	A-4	IC2301	C-2	R2713	B-6		
C2711	C-4	IC2501	B-9	R2714	B-6		

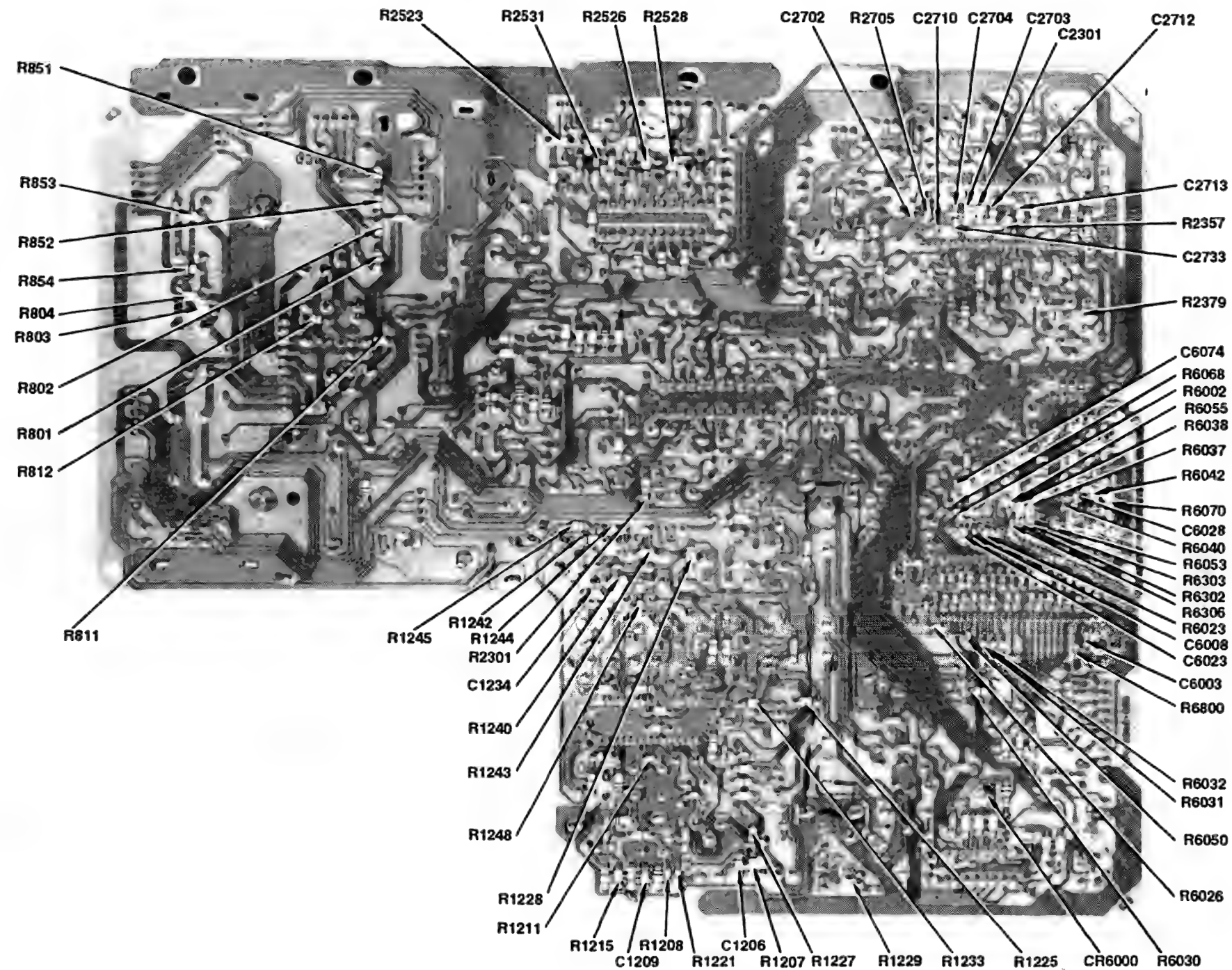
CRT BOARD - BOTTOM VIEW



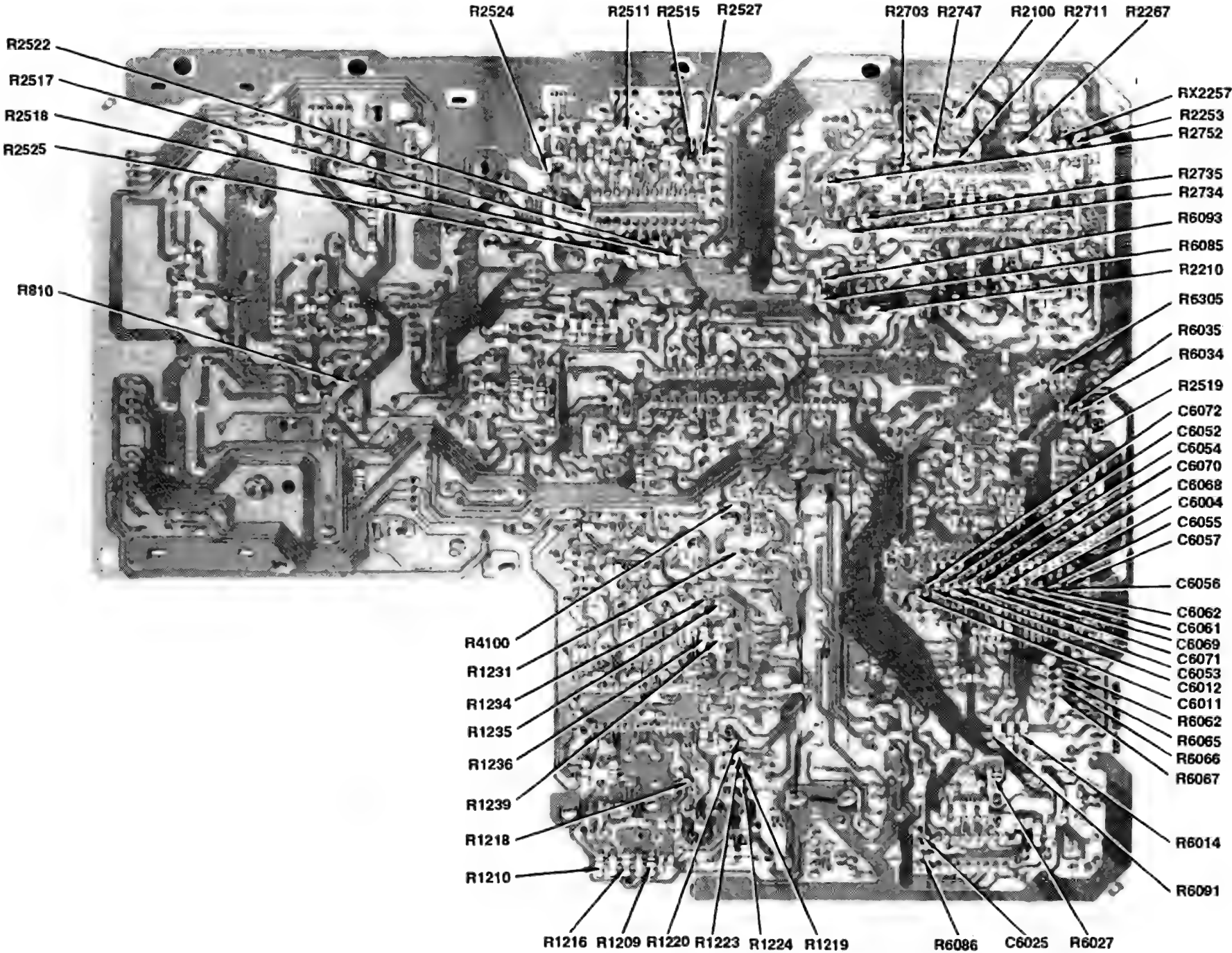
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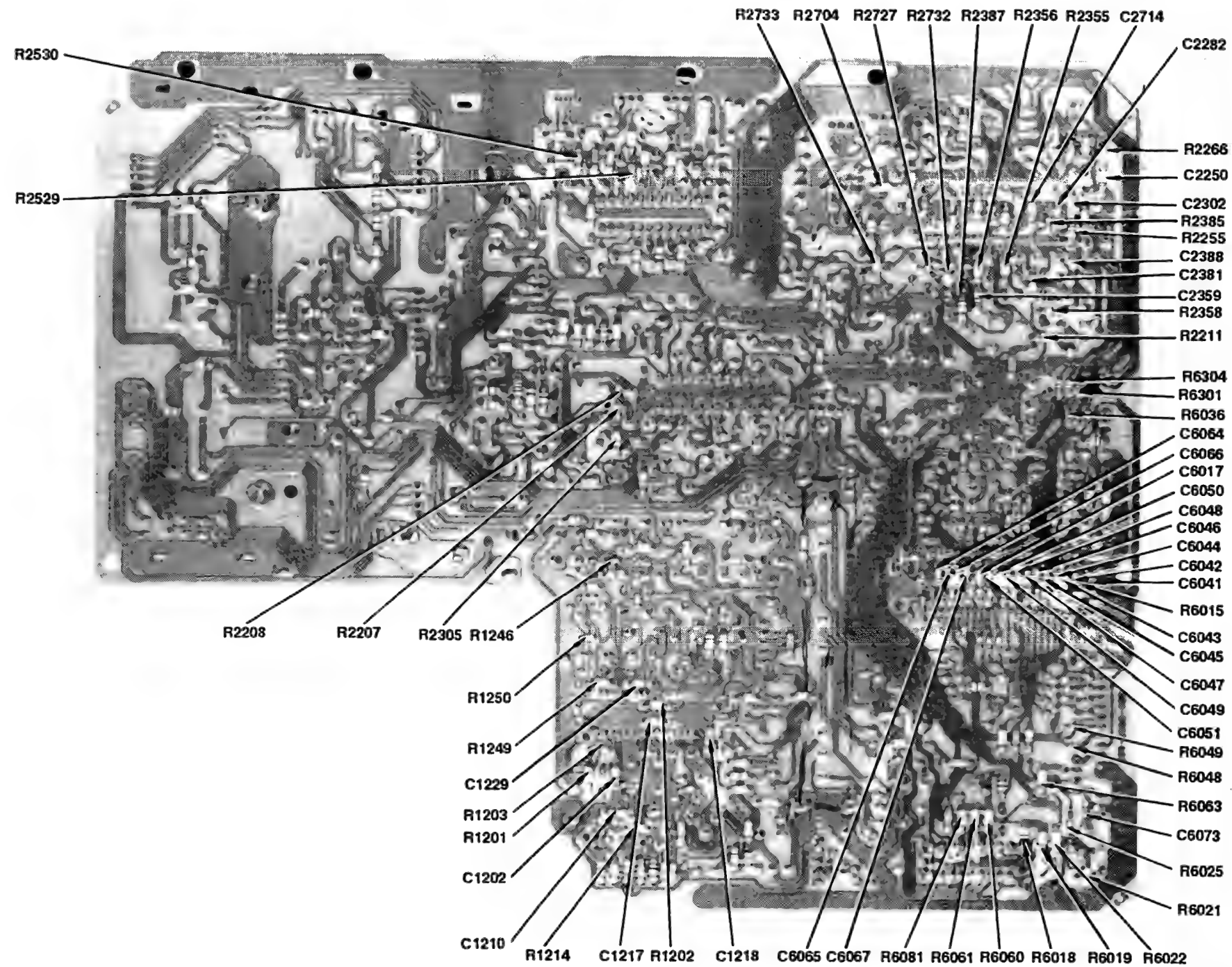
MAIN BOARD - BOTTOM VIEW



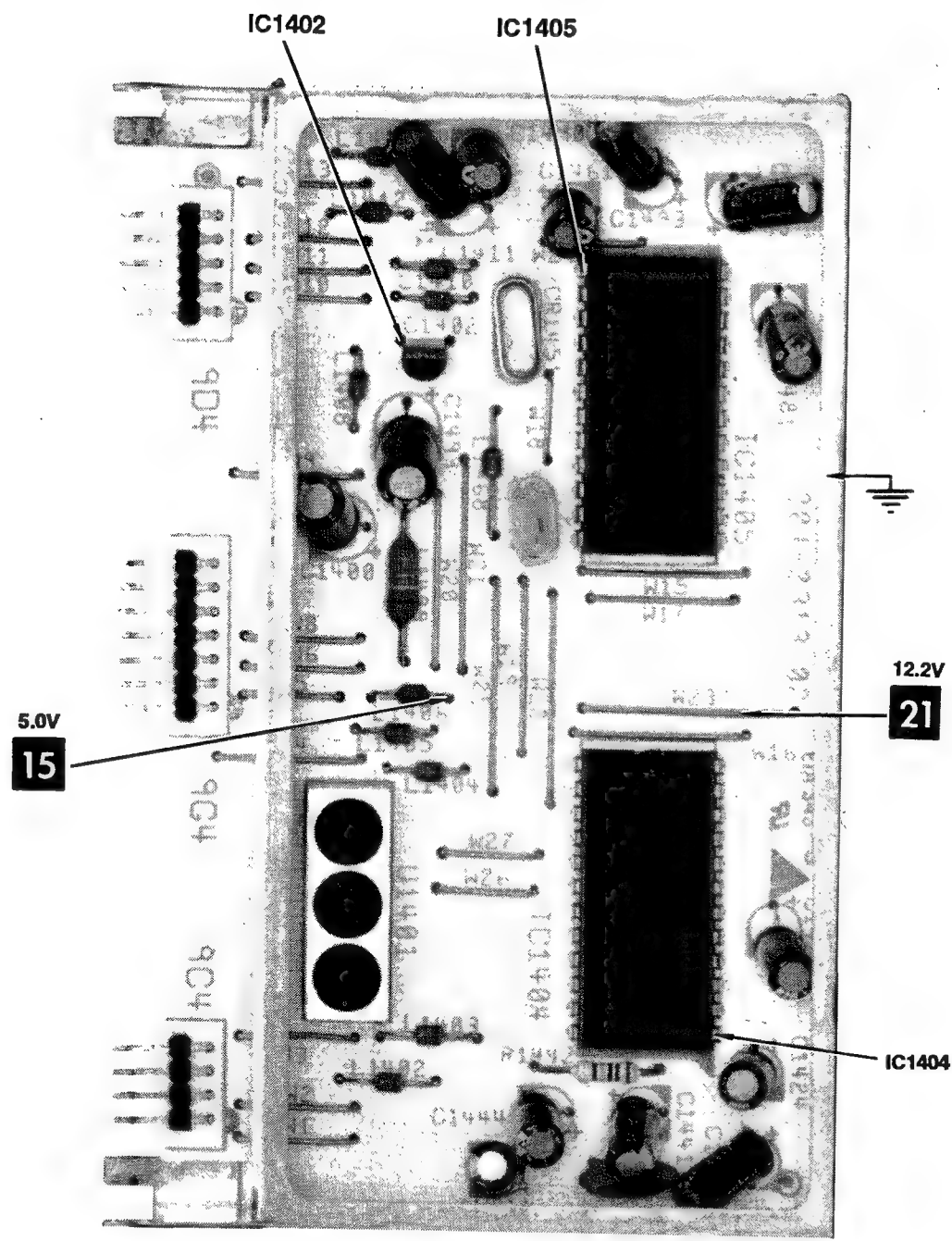
MAIN BOARD - BOTTOM VIEW



MAIN BOARD - BOTTOM VIEW

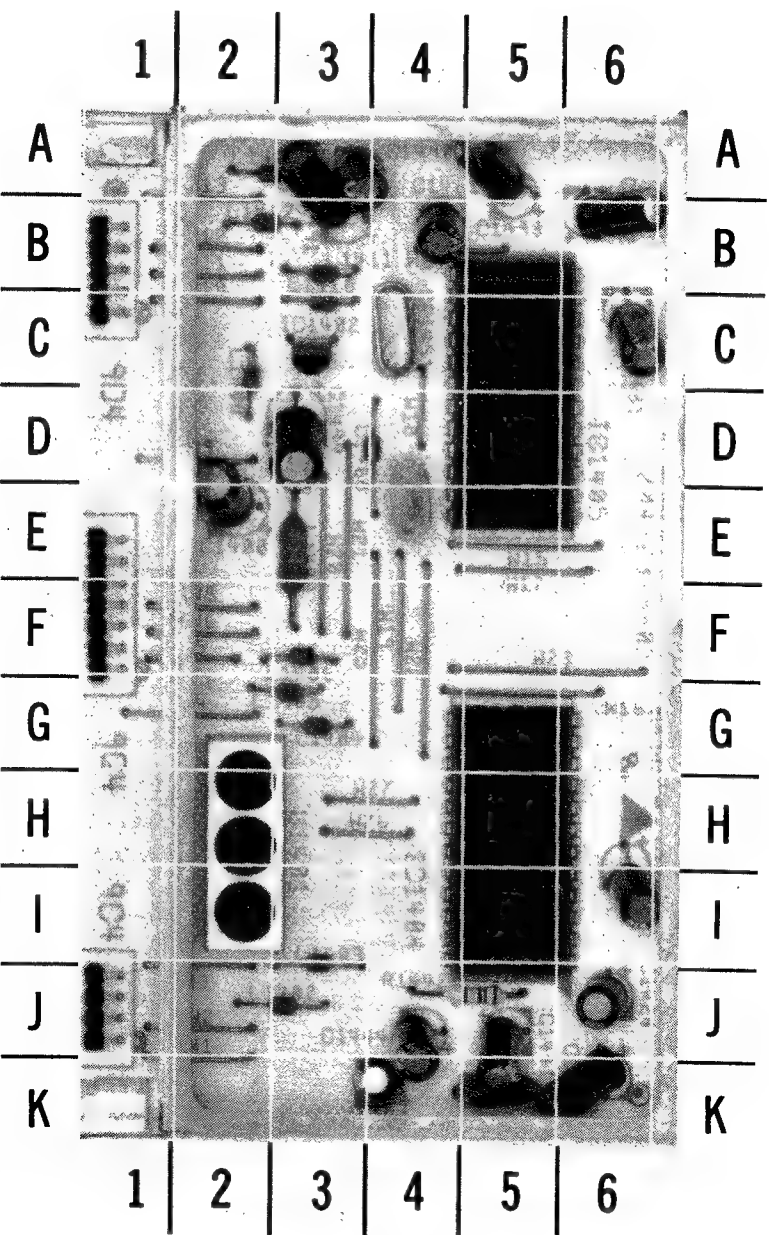


STEREO DECODER BOARD - TOP VIEW



NOTE: ARROWS ON IC'S INDICATE PIN 1 UNLESS NOTED
NOTE: ARROWS ON TRANSISTORS INDICATE BASE UNLESS NOTED

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A HOWARD W. SAMS GRIDTRACE PHOTO

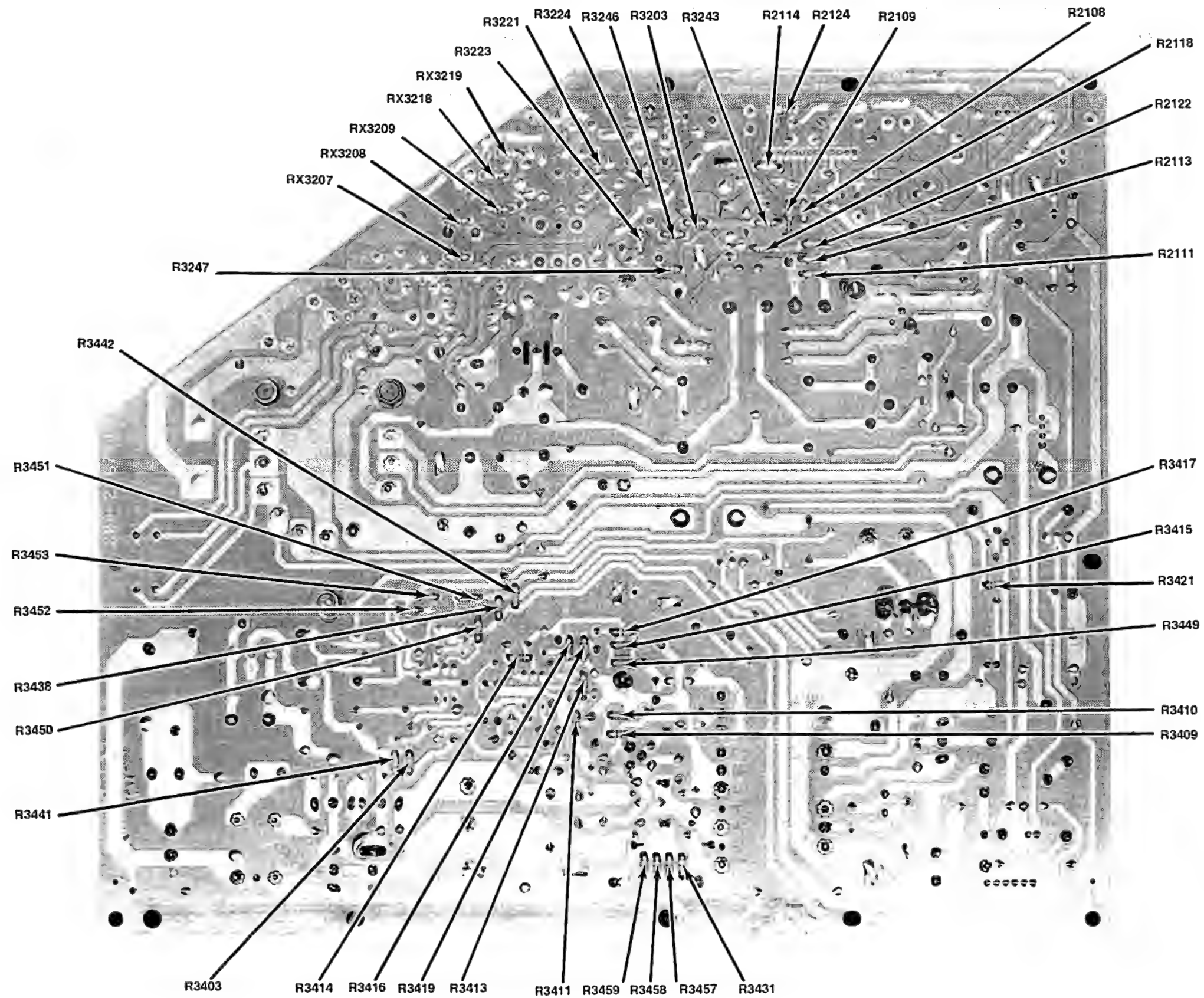
STEREO DECODER BOARD - TOP VIEW,
GRIDTRACE LOCATION GUIDE

C1400	E-2
C1424	J-6
C1425	K-6
C1426	I-6
C1427	K-4
C1440	K-5
C1441	J-5
C1444	J-4
C1461	B-4
C1470	E-4
C1481	C-6
C1490	A-3
C1491	A-3
C1492	B-6
C1493	A-5
C1499	D-3
CR1451	C-4
IC1402	C-3
IC1404	I-6
IC1405	B-4
L1402	J-3
L1403	I-3
L1404	G-3
L1405	G-3
L1406	F-3
L1408	C-2
L1409	E-3
L1410	C-3
L1411	B-3
L1412	B-2
L1413	A-2
L1468	D-4
R1442	J-5
U1401	H-2
9C4	J-1
9D4	C-1
9G4	F-1

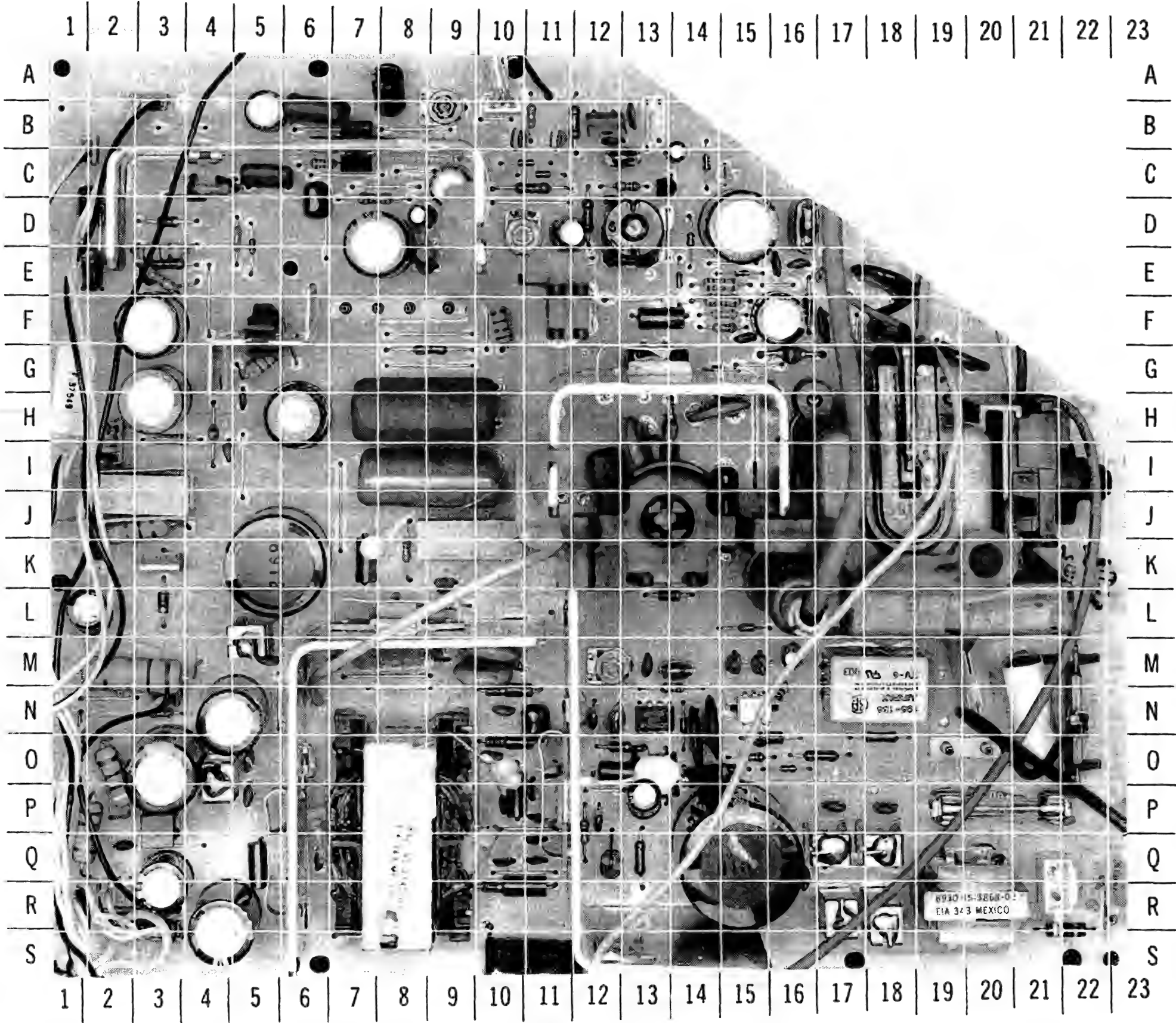
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MODEL SF2593Y2

SMPS/SWEEP BOARD - BOTTOM VIEW



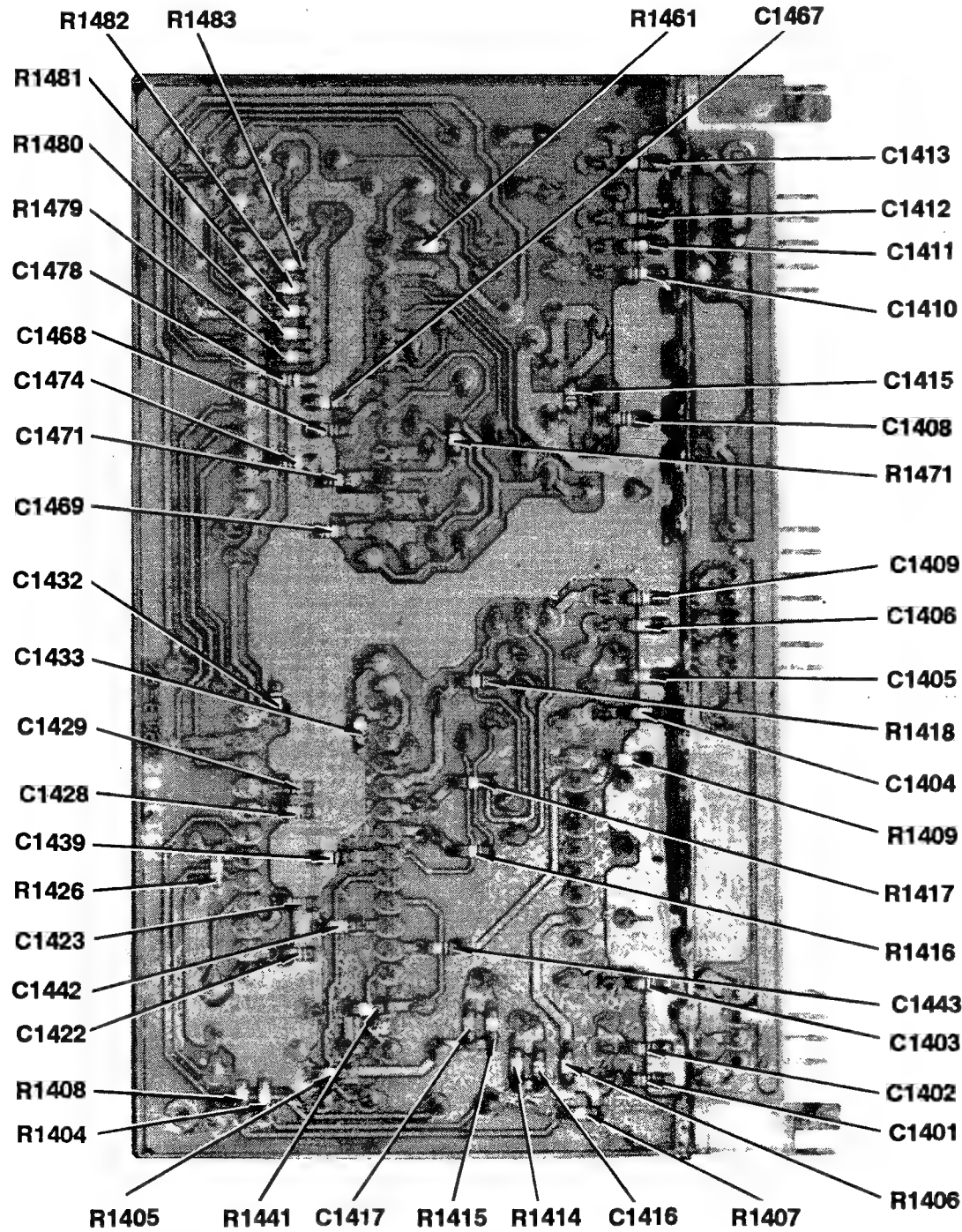
SMPS/SWEEP BOARD - TOP VIEW



SMPS/SWEEP BOARD - TOP VIEW, GRIDTRACE LOCATION GUIDE

C2104	A-8	CR3419	L-3	ICX3402	N-15	RX3405	Q-12
C2106	C-5	CR3420	O-16	KX3401	N-18	RX3407	M-3
C2108	D-8	CR3421	N-14	L3210	F-13	RX3470	O-2
C2112	C-6	CR3422	O-16	L3402	P-3	RX3473	Q-1
C2114	C-6	CR3434	D-3	LX3201	F-12	RX3477	H-3
C2115	B-6	CR3473	G-16	LX3262	H-6	TX3204	I-20
C3201	I-12	CR3487	H-4	LX3401	R-20	TX3205	D-13
C3206	C-14	CR3488	E-15	Q3203	D-9	TX3401	P-8
C3207	E-16	CRX3204	D-14	Q3206	B-12	3A5	I-2
C3209	B-13	CRX3206	F-16	Q3209	B-10	3A6	R-3
C3211	D-12	CRX3235	E-14	Q3402	M-15	3B2	B-2
C3212	C-13	CRX3401	Q-17	Q3404	K-2	3G2	B-3
C3215	B-12	CRX3402	Q-18	Q3410	N-16	3K9	N-3
C3233	J-15	CRX3403	R-17	Q3411	M-15	3N2	B-10
C3235	H-15	CRX3404	R-18	QX3201	F-5	3R8	R-21
C3237	F-17	CRX3405	O-15	QX3202	B-11	3T8	O-20
C3248	E-8	CRX3408	N-10	QX3204	C-13	3Y3	F-9
C3260	H-5	CX2105	C-9	QX3207	C-15		
C3261	H-9	CX2109	D-7	QX3208	G-13		
C3401	P-13	CX2110	B-5	QX3401	K-9		
C3408	N-11	CX3202	D-1	QX3403	K-3		
C3409	M-14	CX3203	F-16	QX3405	L-9		
C3410	N-12	CX3204	D-16	QX3407	P-11		
C3411	N-12	CX3205	E-18	R2112	B-9		
C3413	P-12	CX3208	F-3	R2116	E-3		
C3414	P-14	CX3216	G-20	R2123	D-5		
C3415	R-10	CX3219	E-2	R3201	F-10		
C3417	N-10	CX3221	H-13	R3202	G-9		
C3418	O-10	CX3222	H-16	R3220	B-12		
C3419	M-13	CX3229	I-9	R3227	B-11		
C3420	O-14	CX3231	H-15	R3248	D-9		
C3423	Q-11	CX3401	N-21	R3249	D-10		
C3424	Q-10	CX3403	Q-16	R3402	Q-13		
C3425	M-5	CX3404	P-17	R3412	P-12		
C3426	Q-6	CX3405	P-18	R3418	M-12		
C3427	P-5	CX3406	Q-15	R3420	N-3		
C3428	M-16	CX3421	O-3	R3422	J-2		
C3434	O-5	CX3422	L-1	R3429	R-2		
C3436	Q-11	CX3429	R-5	R3433	N-8		
C3438	P-11	CX3431	K-5	R3434	L-9		
C3439	Q-2	CX3432	N-5	R3435	O-17		
C3440	O-14	CX3433A	M-10	R3436	O-18		
C3441	P-11	CX3433B	M-10	R3439	K-8		
C3469	I-4	CX3440	R-3	R3460	O-15		
C3471	F-15	CX3468	D-15	RX2110	C-4		
C3472	D-11	CX3496	H-3	RX2115	D-7		
C3473	E-16	EX3401	N-22	RX3204	C-13		
CR2101	C-4	FB3201	J-14	RX3205	K-22		
CR2102	D-5	FB3207	I-14	RX3210	E-3		
CR3201	J-14	FB3401	L-5	RX3213	F-15		
CR3202	C-14	FB3402	Q-5	RX3215	F-15		
CR3207	H-14	FB3403	O-4	RX3216	E-15		
CR3209	C-11	FB3404	N-10	RX3222	F-15		
CR3210	C-11	FB3405	O-10	RX3225	D-12		
CR3407	O-10	FB3406	O-12	RX3226	C-11		
CR3409	O-12	FB3407	K-7	RX3235	E-17		
CR3410	M-5	FB3408	O-13	RX3237	J-3		
CR3411	Q-5	FB3409	R-10	RX3242	K-22		
CR3412	O-4	FB3410	P-10	RX3261	J-9		
CR3413	L-14	FX3401	P-20	RX3263	G-5		
CR3415	L-15	IC2100	B-7	RX3283	D-1		
CR3416	R-10	ICX3401	N-13	RX3401	R-22		

STEREO DECODER BOARD - BOTTOM VIEW



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MODEL SF2593Y2

PARTS LIST

SEMICONDUCTORS

(Select replacement for best results.)

Item No.	Mfr. Type No.	Mfr. Part No.	NTE Part No.	ECG Part No.	TCE Part No.
CR1		103-398	-	-	-
CR2		162-12	-	-	-
CR3		103-398	-	-	-
CR801,2		103-142-01	NTE177	ECG177	SK9091
CR803,4		103-142-01	NTE177	ECG177	SK9091
CR1201		103-336-19A	NTE5019A	ECG5019A	SK10A
CR2101		103-254-01	NTE116	ECG116	SK3313
CR2102		103-279-20A	NTE5020A	ECG5020A	SK11A
CR2201		103-301-13A	NTE139A	ECG139	SK9V1
CR2253		103-142-01	NTE177	ECG177	SK9091
CR3201		103-344-05	-	-	-
CR3202		103-142-01	NTE177	ECG177	SK9091
CR3207		103-305	NTE525	ECG525	SK3925
CR3209,10		103-142-01	NTE177	ECG177	SK9091
CR3407		103-344-01	NTE116	ECG116	SK3313
CR3409		103-344A	NTE116	ECG116	SK3313
CR3410		103-417-02	-	-	-
CR3411		103-360-01	-	-	-
CR3412		103-417-02	-	-	-
CR3413		103-254-01	NTE116	ECG116	SK3313
CR3415		103-279-23A	NTE5023A	ECG5023A	SK14A
CR3416		103-344-06	NTE116	ECG116	SK3313
CR3419		103-344A	NTE116	ECG116	SK3313
CR3420		103-330A	NTE116	ECG116	SK3312
CR3421,22		103-142-01	NTE177	ECG177	SK9091
CR3434		103-254-01	NTE116	ECG116	SK3313
CR3473		103-339-04A	NTE580	ECG580	SK5036
CR3487		103-326A	NTE552	ECG552	SK9000
CR3488		103-295-01A	NTE177	ECG177	SK9091
CR4100		103-330A	NTE116	ECG116	SK3312
CR4101		103-142-01	NTE177	ECG177	SK9091
CR4102		103-279-21A	NTE5021A	ECG5021A	SK12A
CR5100,1,2		103-433A	-	-	-
CR5103,4,5		103-301-24A	NTE5031A	ECG5031A	SK24A
CR6000		103-328	-	-	-
CR6002,3,4		103-142-01	NTE177	ECG177	SK9091
CR6005		103-330A	NTE116	ECG116	SK3312
CR6008		103-398	-	-	-
CR6009		-	-	-	-
# CRX3204		103-409A	NTE5021A	ECG5021A	SK12A
# CRX3206		103-344-02A	NTE116	ECG116	SK3313
# CRX3235		103-295-01A	NTE177	ECG177	SK9091
# CRX3401 - 4		103-355-06	NTE125	ECG125	SK3081
# CRX3405		103-254-01	NTE116	ECG116	SK3313
# CRX3408		103-344-01	NTE116	ECG116	SK3313
IC2		221-187	NTE1682	ECG1682	SK7713
IC801		221-578	-	-	-
IC1201		221-516	NTE7015	ECG7015	-
IC1402	MC78L12ACP	221-167-05	NTE950	ECG950	SK9169
IC1404		221-568	-	-	-

For SAFETY use only equivalent replacement part.

SEMICONDUCTORS continued

(Select replacement for best results.)

Item No.	Mfr. Type No.	Mfr. Part No.	NTE Part No.	ECG Part No.	TCE Part No.
IC1405		221-604	-	-	-
		221-571	-	-	-
IC2100		221-550-01	-	-	-
IC2201		221-586	-	-	-
IC2301		221-518	-	-	-
IC2501		221-00590	-	-	-
		221-261-01	-	ECG880	-
IC4100		221-213-4	NTE966	ECG966	SK3592
IC4101	7808C	-	NTE964	ECG964	SK3630
IC4102		221-213-00	NTE960	ECG960	SK3591
IC6000		221-544	-	-	-
IC6001		221-579	-	-	-
IC6002		221-166	NTE960	ECG960	SK3591
# ICX3401	UC3842AN	221-466	-	-	-
# ICX3402		162-18	NTE3041	ECG3041	SK2041
		162-18	NTE3041	ECG3041	SK2041
Q1,2		121-1130	-	-	-
Q801		121-975A	NTE123AP	ECG123AP	SK3854
Q1202		121-1158A	NTE23	ECG23	SK9671
Q1203		121-1020A	NTE194	ECG194	SK3275
Q1204		121-433A	NTE123AP	ECG123AP	SK3854
Q1206		121-895A	NTE123AP	ECG123AP	SK3854
Q2701		121-975A	NTE123AP	ECG123AP	SK3854
Q3203		121-1040A	NTE123AP	ECG123AP	SK3854
Q3206		121-1037	NTE171	ECG171	SK3201
Q3209		121-975A	NTE123AP	ECG123AP	SK3854
Q3402,4		121-1040A	NTE123AP	ECG123AP	SK3854
Q3410,11		121-1040A	NTE123AP	ECG123AP	SK3854
Q4100		121-1035A	NTE297	ECG297	SK3449
Q5101,2,3		121-1034	NTE171	ECG171	SK3201
Q5104,5,6		121-895A	NTE123AP	ECG123AP	SK3854
Q5107,8,9		121-1019A	NTE159	ECG159	SK3466
Q5110,11,12		121-1059A	NTE159	ECG159	SK3466
Q5113		121-1019A	NTE159	ECG159	SK3466
Q6002,3		121-978A	NTE159	ECG159	SK3466
Q6004		121-975A	NTE123AP	ECG123AP	SK3854
Q6006		121-978A	NTE159	ECG159	SK3466
# QX3201		121-1112-01	-	-	-
# QX3202		121-975A	NTE123AP	ECG123AP	SK3854
# QX3204		121-973A	NTE159	ECG159	SK3466
# QX3207		121-975A	NTE123AP	ECG123AP	SK3854
# QX3208		121-1148	NTE2302	ECG2302	SK9422
# QX3401		121-1040A	NTE123AP	ECG123AP	SK3854
# QX3403		121-1112-01	NTE292	ECG292	SK3441
# QX3405		121-1112	-	-	-
# QX3407		121-1190	-	-	-

For SAFETY use only equivalent replacement part.

ELECTROLYTIC CAPACITORS

Item	Rating	Mfr. Part No.
C2203	22 NP 25V 20%	22-7405-06
C2209	22 NP 25V 20%	22-7405-06
C2210	10 NP 25V 20%	22-7405-05
C2726	3.3 16V 20%	22-7404-03A
C2731	2.2 NP 25V 20%	22-7405-02A
# CX804	100 16V 20%	22-7859-09A
# CX806	1000 16V 20%	22-7859-13
# CX810	1000 25V 20%	22-7860-13
# CX812	100 16V 20%	22-7859-09A
# CX854	100 16V 20%	22-7859-09A
# CX856	1000 16V 20%	22-7859-13
# CX2105	220 35V 20%	22-7861-10
# CX2109	2200 25V 20%	22-7860-14
# CX2110	100 35V 20%	22-7861-09
# CX3202	1 50V 20%	22-7862-01A
# CX3203	220 63V 20%	22-7863-10
# CX3208	4.7 NP 50V 20%	22-8057-01
# CX3219	4.7 35V 20%	22-7861-04A
# CX3406	680 200V 20%	22-7908B
# CX3421	1000 63V 20%	22-7863-13
# CX3422	220 16V 20%	22-7859-10
# CX3429	2200 25V 20%	22-7860-14
# CX3431	220 200V 20%	22-7902
# CX3432	100 160V 20%	22-7961-17
# CX3440	470 25V 20%	27-7860-12
# CX3468	2200 35V 20%	22-7861-14
# CX3496	10 315V	22-7999-02B
# CX4100	1000 25V 20%	22-7860-13
# CX6018	470 16V 20%	22-7859-12

For SAFETY use only equivalent replacement part.

PARTS LIST continued

CAPACITORS

Item	Rating	Mfr. Part No.
C1214	300 N750 50V 5%	-
	150 N750 50V 5%	22-7619-38C
C1221	30 N150 50V 5%	22-7631-20B
C1227	100 NPO 50V 5%	22-7619-34B
C1228	100 NPO 50V 5%	22-7619-34B
C1232	100 NPO 50V 5%	22-7619-34B
C1440	120 NPO 50V 5%	22-7619-36C
C2305	33 NPO 50V 5%	22-7621-22B
C2307	62 NPO 50V 5%	22-7621-29B
C2311	33 NPO 50V 5%	22-7621-22B
C2355	51 NPO 50V 5%	22-7621-27B
C2356	56 NPO 50V 5%	22-7621-28B
C2389	47 NPO 50V 5%	22-7619-26B
C5107	7 NPO 50V ±.25pF	22-7621-07B
# CX3204	.33 100V 5%	22-7773-30B
# CX3205	.01 2KV 20%	22-7523-01D
# CX3216	.01 2KV 20%	22-7523-01D
# CX3222	530 3KV 10%	22-8063
# CX3229	.014 1.6KV 5%	22-7672-12
# CX3231	530 3KV 10%	22-8063
# CX3401	220	-
# CX3403	.001 500V 10%	22-7786C
# CX3404	.001 500V 10%	22-7786C
# CX3405	.001 500V 10%	22-7786C
# CX3433A	.0047	-
	.01 50V 20%	22-7431-07B
# CX3433B	.0047	-

For SAFETY use only equivalent replacement part.

CONTROLS

(All wattages 1/2 watt or less, unless otherwise listed.)

Item No.	Function	Resistance	Mfr. Part No.
R1222	AGC Delay	5000	63-10857-11
R1226	Composite Video	500	63-10857-05
R1247	Audio Level	5000	63-10857-11
R2112	Vertical Linearity	50K	63-10857-16
R3249	Width	1000	63-10857-30
R3418	Voltage Adjust	2000	63-10857-07
# RX3299A	Focus	-	(1)
# RX3299B	Screen	-	(1)

For SAFETY use only equivalent replacement part.

(1) Part of TX3204 Horizontal Output Transformer, Part No. 95-4134.

RESISTORS

Item No.	Rating	Mfr. Part No.	NTE Replacement
CR6000A	Photovaristor	132-10	
R1442	150K 1% 1/4W Carbon Film	63-10533-33A	-
R2513	1200 2% 1/4W Carbon Film	63-10233-74	QW212
R2514	1200 2% 1/4W Carbon Film	63-10233-74	QW212
R2515	1100 1% 1/4W Leadless	63-11094-04	-
R2529	8250 1% 1/4W Leadless	63-11094-88	-
R2530	11.3K 1% 1/4W Carbon Film	63-11095-05	-
R2531	11.3K 1% 1/4W Carbon Film	63-11095-05	-
R2705	8660 1% 1/4W Carbon Film	63-11094-90	-
R3416	1000 2% 1/4W Leadless	-	-
	160 5% 1/4W Leadless	63-11020-54	-
R3433	150 10% 3W Wirewound	63-10430-76	-
R5101	1500 1% 1/4W Leadless	63-11094-17	-
R5102	1500 1% 1/4W Leadless	63-11094-17	-
R5103	1210 1% 1/4W Leadless	63-11094-08	-
R5104	26.7K 1% 1/4W Leadless	63-11095-41	-
R5105	26.7K 1% 1/4W Leadless	63-11095-41	-
R5106	118K 1% 1/4W Leadless	63-11096-07	-
R5110	120K 2% 1/2W Carbon Film	63-10242-22	HW412
R5111	120K 2% 1/2W Carbon Film	63-10242-22	HW412
R5112	120K 2% 1/2W Carbon Film	63-10242-22	HW412
R5116	4700 5% 3W Metal Oxide	63-10840-88	3W247
R5117	4700 5% 3W Metal Oxide	63-10840-88	3W247
R5118	4700 5% 3W Metal Oxide	63-10840-88	3W247
R5128	680 2% 1/4W Carbon Film	63-10233-68	QW168
R5129	680 2% 1/4W Carbon Film	63-10233-68	QW168
# RX2110	4.7 5% 1/2W Carbon Film	63-10565-16	HW4D7
# RX2115	1.2 5% 1/2W Carbon Film	63-10565-02	HW1D2
# RX2257	1300 1% 1/4W Leadless	-	-
# RX3204	1000 5% 1/4W Carbon Film	63-10235-72	QW210
	120 5% 1/4W Carbon Film	63-10235-50	QW112
# RX3205	.1 5% 1/2W Carbon Film	63-10829-25A	HWD10
# RX3206	1800 5% 1W Carbon Film	63-10832-78B	IW218
# RX3207	22 5% 1/4W Leadless	63-11020-33	-
# RX3208	510 5% 1/4W Leadless	63-11020-66	-
# RX3209	1000 5% 1/4W Leadless	63-11020-73	-
# RX3210	1000 5% 1/2W Carbon Film	63-10243-72	QW210
# RX3213	22K 5% 1/4W Carbon Film	63-10236-04	QW322
	56K 5% 1/4W Carbon Film	63-10236-14	QW356
# RX3215	330K 5% 1/4W Carbon Film	-	QW433
	56K 5% 1/4W Carbon Film	63-10236-14	QW356
	15K 5% 1/4W Carbon Film	63-10236	QW315
# RX3216	1820 1% 1/2W Carbon Film	63-10810-11A	-
# RX3218	2700 5% 1/4W Leadless	63-11020-83	-
# RX3219	4700 5% 1/4W Carbon Film	63-11020-89	QW247

For SAFETY use only equivalent replacement part.

RESISTORS continued

Item No.	Rating	Mfr. Part No.	NTE Replacement
# RX3222	1820 1% 1/2W Carbon Film	63-10810-11A	-
	1300 1% 1/2W Carbon Film	63-10810-05A	-
# RX3225	2000 5% 1/2W Carbon Film	63-10243-79	HW220
# RX3226	2000 5% 1/2W Carbon Film	63-10243-79	HW220
# RX3235	1820 1% 1/2W Carbon Film	63-10810-11A	-
# RX3237	4.7 5% 5W Wirewound	63-10442-40A	5W4D7
# RX3242	1 5% 1/2W Carbon Film	63-10565	HW1D0
# RX3261	2 5% 5W Wirewound	63-10442-31A	5W2D2
# RX3263	750 5% 1W Carbon Film	63-10832-69B	IW175
# RX3283	510 5% 1W Carbon Film	63-10235-65	2W151
# RX3401	5.6M 20% 1/2W Carbon Film	63-10657-06	HW556
# RX3405	.15 5% 2W Wirewound	63-10411-04	-
# RX3407	12K 5% 3W Carbon Film	63-10840-98B	3W312
# RX3426	14.6 Cold PTC Thermistor	63-10710A	-
# RX3470	9100 5% 2W Carbon Film	63-10836-95B	2W291
# RX3473	12K 5% 2W Carbon Film	63-10836-98B	2W312
# RX3477	2.7 5% 1/2W Carbon Film	63-10565-10	HW2D7
# RX4101	18 5% 3W Carbon Film	63-10840-30	3W018
# RX6052	51 5% 2W Carbon Film	63-10536-41	2W051

For SAFETY use only equivalent replacement part.

COILS & TRANSFORMERS

Item No.	Function	Mfr. Part No.	Other Identification
DY2300	Deflection Yoke 100°	95-3406-08	95-3406-08 (1)
	Horiz .93mH		
	Vert 17.5mH		
	Deflection Yoke	95-3797-05 (2)	
# LX3201	Width	20-428401	20-428401 (1)
# LX3262	Horizontal Linearity	204073-03	20-4073-03 (1)
# TX3204	Horizontal Output	95-4134 (3)	95-4134 (1)
# TX3205	Horizontal Driver	95-4135-01	95-4135-01 (1)
# TX3401	Chopper	95-4140-01	95-4170-01 (1)

For SAFETY use only equivalent replacement part.

(1) Number on unit.

(2) Models SF2799Y2, SF5725H/H52, SF5729S2/W2, SF5765H2/H52, SF5769Y2.

(3) EVG / Russell Industries replacement part number FBT-214.

PARTS LIST continued

COILS (RF-IF)

Item No.	Rating	Mfr. Part No.
L1201	-	20-4216-01
L1204	(.82uH)	20-4129-07
L1205	-	20-4216-01
L1206	(8.2uH)	20-3907-11A
L1207	(12uH)	20-3907-13A
L1208	(.82uH)	20-4129-07
L1209	AFT	20-4172-12A
L1211	Video IF	20-4172-07A
L1212	-	20-4216-01
L1213	Sound IF	20-4278B
L1215	(.82uH)	20-4129-07
L1216	(8.2uH)	20-3907-22A
L1402	(6.8uH)	20-3907-10A
L1403	(6.8uH)	20-3907-10A
L1404	(6.8uH)	20-3907-10A
L1405	(6.8uH)	20-3907-10A
L1406	(6.8uH)	20-3907-10A
L1408	(6.8uH)	20-3907-10A
L1409	(6.8uH)	20-3907-10A
L1410	(6.8uH)	20-3907-10A
L1411	(6.8uH)	20-3907-10A
L1412	(6.8uH)	20-3907-10A
L1413	(6.8uH)	20-3907-10A
L1468	(6.8uH)	20-3907-10A
L2277	(39uH)	20-4277-29A
L2303	(18uH)	20-4277-42A
L2304	(27uH)	20-4277-44A
L2378	(47uH)	20-3887-20D
L3402	-	20-4314
L5100	-	20-4216-01
L5101	(68uH)	20-3907-22A
L5102	(68uH)	20-3907-22A
L5103	(68uH)	20-3907-22A
L5104	(1uH)	20-3907A
L6000	(22uH)	20-4129-24
L6001	(1uH)	20-3907A
L6002	(10uH)	20-3907-12A
L6003	(1uH)	20-3907A
L6004	(1uH)	20-3907A
# LX2202	(10uH)	20-3907-12A
# LX2377	(10uH)	20-3907-12A
# LX2379	(10uH)	20-3907-12A
# LX3401	Line Filter	95-3868-02
T1	Oscillator	-

For SAFETY use only equivalent replacement part.

MISCELLANEOUS

Item No.	Description	Mfr. Part No.	Notes
CR1451	Crystal	224-61B	14.318180MHz
CR2356	Crystal	224-27	3.58MHz
CR6001	Crystal	224-32	
DL2201	Delay Line	223-30	
E5101	Spark Gap	52-2240-06A	
E5102	Spark Gap	52-2240-06A	
E5103	Spark Gap	52-2240-06A	
# EX3401	Spark Gap	38-102	4KV DC
# FX3401	Fuse	136-113-23	4 Amp @ 250V
	Fuse	136-113-23A	4 Amp @ 250V
FB3402	Ferrite Bead	149-576-01	
FB3406	Ferrite Bead	149-583-01	
FB3407	Ferrite Bead	149-583-01	
FB3408	Ferrite Bead	149-576-01	
J1	Jack	78-3403	Video Loop Output
J2	Jack	78-3402-01	Left Audio Loop Output
J3	Jack	78-3402	Right Audio Loop Output
J4	Jack	78-3402-02	Video Input
J5	Jack	78-3402-01	Left Audio Input
J6	Jack	78-3402	Right Audio Input
J7	Jack	78-3402-01	Left Audio Variable Output
J8	Jack	78-3402	Right Audio Variable Output
J6800	Jack	52-2618-36	Tuner Prescaler Input
# KX3401	Relay	195-138	Degauss
L2206	Delay Line	20-4135	
L3210	Ferrite Bead	149-454	
L3400	Degaussing Coil	20-4330-03	
	Degaussing Coil	20-4330-09 (1)	
	Degaussing Coil	20-4330-05 (2)	
P3400	AC Cord	A-16206	
U1201	Ceramic Filter	224-54	45MHz Bandpass
U1202	Crystal	224-29	SAW Filter
U1203	Filter	224-23	4.5MHz Trap
U1401	Filter	105-183	Bandpass
V1	CRT	GA63AAX42X	
	CRT	GA68ACT00X (1)	
SW1	Switch	85-1778-02	External Speaker
SW6000	Switch		On/Off
SW6001	Switch		Channel Up
SW6002	Switch		Channel Down
SW6003	Switch		Volume Up

For SAFETY use only equivalent replacement part.
(1) Models SF2799Y2, SF5725H/H52, SF5729S2/W2, SF5745H2/H52, SF5749W2, F5765H2/H52, SF5769Y2.
(2) Some Models SF5745H2/H52, SF5749W2.

MISCELLANEOUS continued

Item No.	Description	Mfr. Part No.	Notes
SW6004	Switch		Volume Down
SW6005	Switch		Menu
SW6006	Switch		Function
SW6007	Switch		Adjust Up
SW6008	Switch		Adjust Down
SW6009	Switch		Enter
5L	Switch		Service
	Balun	A-14323	Antenna
	CRT Socket	78-3394	
	Fuse Holder	19-840-02	
	Magnet	A-7690	Purity
	Magnet	A-13059-01 (1)	Purity
	PC Board	A-16256	Keyboard
	PC Board	9-825-01	Main
	PC Board	9-823-01	SMPS/Sweep
	PC Board	9-822-01 (1)	SMPS/Sweep
	PC Board	A-16219	Stereo Decoder
	PC Board	A-15458	Y/C Video Input
	RC Receiver	A-15933	
	RC Transmitter	124-156-03	
	RC Transmitter	124-156-02 (3)	
	Tuner	175-2303	UHF/VHF
	Wedge	152-326-01	Yoke (3 used)
	Wedge	152-335 (1)	Yoke (3 used)

For SAFETY use only equivalent replacement part.
(1) Models SF2799Y2, SF5725H/H52, SF5729S2/W2, SF5745H2/H52, SF5749W2, F5765H2/H52, SF5769Y2.
(3) Models SF5725H52, SF5729S, SF5745H52, SF5769H52.

SPEAKERS

Item No.	Description	Mfr. Part No.	QUAM Part No.
SP1, SP2	2 3/8" X 3 1/2"	49-1342-04 (1)	-
	4" X 6"	49-1257-02 (2)	-
	2 3/8" X 5 1/8"	49-1368 (3)	-

(1) Models SF2593X2/Y2.
(2) Models SF5725H2/H52, SF5745H2/H52, SF5765H2/H52.
(3) Models SF2799Y2, SF5729S2/W2, SF5749W2, SF5769Y2.

PARTS LIST continued

CABINET PARTS

MODEL	SF2593X2	SF2593Y2	SF2799Y2	SF5725H2
Item	Part No.	Part No.	Part No.	Part No.
Cabinet Front	14-11709-43	14-11709-37	14-11792-38	14-11970-04
Cabinet Rear	14-11710-04	14-11710-04	14-11916	14-11639-14
CRT Escutcheon	-	-	-	57-9028-27
Crystal Window	192-817-03	192-817-03	-	192-818
Pushbutton	46-10508	46-10508	-	46-10508-09
Sunscreen	-	192-726-13	192-788-03	-
MODEL	SF5725H52	SF5729S2	SF5729W2	SF5745H2
Item	Part No.	Part No.	Part No.	Part No.
Cabinet Front	14-11970-04	14-11792-43	14-11792-40	14-11970-05
Cabinet Rear	14-11639-14	14-11916	14-11916	14-11639-14
CRT Escutcheon	57-9028-27A	-	-	57-9028-27
Crystal Window	192-818	-	-	192-818
Pushbutton	46-10508-09	46-10508	46-10508	46-10508-01
MODEL	SF5745H52	SF5749W2	SF5765H2	SF5765H52
Item	Part No.	Part No.	Part No.	Part No.
Cabinet Front	14-11970-05	14-11792-41	14-11970-02	14-11970-06
Cabinet Rear	14-11639-14	14-11916	14-11639-14	14-11639-14
CRT Escutcheon	57-9028-27A	-	57-9028-28	57-9028-28A
Crystal Window	192-818	192-726-13	192-818	192-818
Pushbutton	46-10508-01	46-10508	46-10508	46-10508
Sunscreen	-	192-788-02	-	-
MODEL	SF5769Y2			
Item	Part No.			
Cabinet Front	14-11972-42			
Cabinet Rear	14-11916			
Crystal Window	192-726-13			
Pushbutton	46-10508-03			
Sunscreen	192-788-02			

Important Parts Information

- The parts listed here are those not usually available from a well-stocked supply cabinet or bin.
- Where items may be replaced with equivalent parts, several alternates are shown from participating vendors.
- On the parts lists, safety items are marked with a # to remind you that only exact replacements are recommended for these items.
- When ordering parts, state the model number, part number, and description.

Obtaining Parts

Many of these parts are available from your local Sams authorized distributor or the manufacturer of the equipment. Call Sams for the name of your nearest distributor:

800-428-7267

Or consult the Sams *Annual Index* for the address of the original equipment manufacturer.

Participating Vendors

Information on test equipment and replacement parts is listed in these pages for the following participating vendors. Consult the Sams *Annual Index* for their current address.

- | | |
|--|--|
| ▪ B&K Precision | ▪ Philips ECG Company (ECG) |
| ▪ Custom Components Corporation (Chek-A-Color) | ▪ PTS Electronics Corporation (PTS) |
| ▪ EVG / Russell Industries, Inc. | ▪ Quam-Nichols Co. (Quam) |
| ▪ GC-THORSEN | ▪ Sencore, Inc. |
| ▪ NTE Electronics, Inc. (NTE) | ▪ Thomson Consumer Electronics, Inc. (SK, TCE) |



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ZENITH

MODEL SF2593Y2